
Note

Minnesota's Digital Divide: How Minnesota Can Replicate the Rural Electrification Act to Deliver Rural Broadband

*Abby Oakland**

INTRODUCTION

Carlie Mell glanced at the clock—10:47 p.m.—and then quickly looked back to her computer.¹ The top left corner displayed a seemingly perpetually spinning circle, and the webpage Carlie needed to double-check before submitting her research paper refused to load. As had become her habit, Carlie walked away and tried not to let the anxiety build any further. After a few minutes, she returned and finally could view enough of the site to finish editing her assignment. She quickly threw on her coat, stocking hat, and gloves; stuffed her laptop into her backpack; and raced to her car. Driving carefully on the ice-covered gravel road, Carlie's eyes kept jumping to the clock; she knew she needed to get to the school by 11:30 p.m. As she pulled into parking lot, Carlie made sure to go to the farthest corner spot, where she knew the signal was strongest. She parked and quickly pulled out her laptop, connected to the school's Internet, and began to upload the assignment to her teacher's online portal. The school's Internet connection was miserably slow and did not have nearly as much strength outside, but unlike her home connection, it reliably completed uploads

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1. Kait Ecker, *Broadening Broadband Means Real Opportunity for Students*, ACCESS U: BEYOND CITIES (Mar. 7, 2019), <http://accessubeyondcities.sjmc.umn.edu/2019/03/07/broadening-broadband-means-real-opportunity-for-students/index.html> [<https://perma.cc/6SKZ-WXBV>] (describing Mell's struggles after beginning at college, but details have been embellished).

and was the only available option for Carlie to make sure she met the deadline to submit her research paper.

Once the site assured her the upload was complete—twenty minutes later—Carlie let out a sigh of relief. The paper was her final assignment for the Postsecondary Enrollment Options (PSEO) class she needed to pass in order to get into the University of Minnesota.² From there, she hoped to get a job in the metro area and leave her rural roots behind. Carlie, exhausted from the drawn-out writing process, carefully began to drive home. As she drove, she let her mind wander to the future—a life in the metro area, a great job, and, most importantly, escaping the frustrations of life on the farm.

Rural America is struggling. Like Carlie and her battle to complete the simple task of submitting an online assignment, rural residents fight to access things taken for granted elsewhere—strong communities, quality education, healthcare, and economic opportunity. Currently, though, significant hurdles exist in every sphere. Rural communities experience lags in health care services, are more likely to be uninsured,³ and often lack “mental health and other behavioral health services, long-term care options for seniors, emergency medical services, and other essential services.”⁴ In the economic arena, rural communities have been hit hard by complex factors including trade barriers, evolving markets, and an increasingly volatile climate.⁵

2. *Id.*; MINN. DEP’T OF EDUC., POSTSECONDARY ENROLLMENT OPTIONS (PSEO), <https://education.mn.gov/MDE/fam/dual/pseo> [<https://perma.cc/4Y4H-AX6W>] (describing PSEO as “a program that allows public and nonpublic students in 10th, 11th and 12th grades to earn college credit while still in high school, through enrollment in and successful completion of college nonsectarian courses”).

3. NAT’L CONF. OF STATE LEGISLATURES, CHALLENGES FACING RURAL COMMUNITIES (2020), <http://www.ncsl.org/research/agriculture-and-rural-development/challenges-facing-rural-communities.aspx> [<https://perma.cc/XZ2G-XFZZ>].

4. *Id.*

5. Beth Ford, *Land O’Lakes CEO: Farmers Are in Crisis—And America Isn’t Paying Attention*, FORTUNE (June 11, 2019), <https://fortune.com/2019/06/11/farm-crisis-midwest-floods-2019> [<https://perma.cc/B3TQ-268E>] (stating that farmers are living through an “extremely difficult period of market turmoil”); USDA ECON. RSCH. SERV., HIGHLIGHTS FROM THE AUGUST 2019 FARM INCOME FORECAST (2019), <https://web.archive.org/web/20190903153833/https://www.ers.usda.gov/topics/farm-economy/farm-sector-income-finances/highlights-from-the-farm-income-forecast>; Kevin Coss, *Minnesota Farm Income Hits Lowest Point in at Least 23 Years*, UMN OFF. VICE PRESIDENT FOR RSCH. (Mar. 27, 2019), <https://research.umn.edu/inquiry/post/minnesota-farm-income-hits-lowest-point-least-23-years> [<https://perma.cc/4QU9-FTMQ>] (reporting that 2018 farm incomes were at their lowest rates in decades and 34% of farmers lost money on operations); Jesse Newman & Jacob Bunge, *“This One Here Is Gonna Kick My Butt”—Farm Belt Bankruptcies Are Soaring*, WALL ST. J. (Feb. 6, 2019), <https://www.wsj.com/articles/this-one-here-is-gonna-kick-my-buttfarm-belt-bankruptcies-are-soaring-11549468759> (detailing that farm bankruptcies in major farm states “rose to

Individuals in rural areas as a whole are more likely to experience lower economic development,⁶ live below the poverty line,⁷ and experience food insecurity than those in urban areas.⁸

Young people in rural areas often experience particularly sharp effects from the challenges facing their communities. These impacts can include increased poverty rates,⁹ social isolation,¹⁰ and educational deficits.¹¹ Heightened poverty rates for children can impact long-term health,¹² educational development and aspiration,¹³ and ultimately social and economic mobility.¹⁴ Youth in rural areas also experience lower social and cultural interaction than youth in urban areas.¹⁵ Lack of adequate social opportunities can lead to behavioral

the highest level in at least 10 years. The Seventh Circuit Court of Appeals . . . had double the bankruptcies in 2018 compared with 2008. In the Eighth Circuit . . . bankruptcies swelled 96%.”).

6. Coss, *supra* note 5.

7. USDA ECON. RSCH. SERV., RURAL POVERTY & WELL-BEING (2020), <https://www.ers.usda.gov/topics/rural-economy-population/rural-poverty-well-being> [<https://perma.cc/LJ9U-3VV9>].

8. USDA ECON. RSCH. SERV., FOOD SECURITY IN THE U.S. (2019), <https://www.ers.usda.gov/topics/food-nutrition-assistance/food-security-in-the-us/key-statistics-graphics> [<https://perma.cc/3VFT-V9AK>] (demonstrating that food insecurity is higher in more rural states).

9. *Rural Populations*, AM. YOUTH POL'Y F., <https://www.aypf.org/youth-populations/rural-populations> [<https://perma.cc/4D27-CPQD>] (finding that the 2016 poverty rate for rural children was 23.5% compared to 18.8% in urban areas and that rural households suffer food insecurity more frequently than urban households).

10. Rhitu Chatterjee, *Bringing Together Young and Old to Ease the Isolation of Rural Life*, NPR (Aug. 7, 2019), <https://www.npr.org/sections/health-shots/2019/08/07/747072351/bringing-together-young-and-old-to-ease-the-isolation-of-rural-life> [<https://perma.cc/4YWJ-4XT3>] (broadly discussing rural isolation).

11. Will Flanders, *The Neglected Challenges of Rural Education*, REALCAREEDUCATION (May 8, 2018), https://www.realcareeducation.com/articles/2018/05/08/the-neglected-challenges-of-rural-education_110275.html [<https://perma.cc/K2BZ-3VPF>] (examining “the performance differences between urban, suburban, and rural schools”).

12. See generally Council on Cmty. Pediatrics, *Poverty and Child Health in the United States*, PEDIATRICS, Apr. 2016, at 1, 1–7 (outlining how poverty affects child health).

13. See generally Matthew J. Irvin, Soo-yang Byun, Judith L. Meece, Thomas W. Farmer & Bryan C. Hutchins, *Educational Barriers of Rural Youth: Relation of Individual and Contextual Difference Variables*, 20 J. CAREER ASSESSMENT 71 (2012) (discussing the barriers rural students face in reaching their postsecondary goals).

14. *Id.*; Rebecca Schreuder, *Unstacking the Deck: Rural Poverty and the Effects on Childhood Development*, 1 MICH. J. SOC. WORK & SOC. WELFARE 45, 53–54 (2010) (addressing rural children’s lack of resources).

15. *The Facts on Rural Schools*, PUB. SCH. FIRST NC (Mar. 2, 2020), <https://www.publicschoolsfirstnc.org/resources/fact-sheets/the-facts-on-rural-schools> [<https://perma.cc/9XQH-ZZ8J>] (noting that rural schools play a larger part in the

problems, diminished career aspirations, and reduced economic and employment opportunity.¹⁶

In the face of the obstacles facing rural America in general, and particularly rural Minnesota, quality education can play an essential role in overcoming the damaging effects of poverty and other systemic issues faced by rural children. However, rural schools often lack resources and funding, struggle to recruit and retain high-quality teachers, and are unable to offer broad and diverse courses in secondary schools.¹⁷ Early childhood education programs are less available in rural areas, and rural students are less likely to have access to Advanced Placement and college credit courses.¹⁸ School districts in rural areas also tend to offer fewer extracurricular activities and postsecondary preparation opportunities to their students.¹⁹ Despite modern expectations of a college degree, rural students often cannot go on campus visits or participate in career exploration events.²⁰ College recruiters visit rural areas less frequently and often fail to direct recruiting efforts at rural students.²¹ Not surprisingly, rural youth have higher high school dropout rates and are less likely to enroll in and finish college than urban or suburban students.²² If rural children fail to receive

community that their urban counterparts, acting as “the center of social, recreational, and cultural life in their communities”); Schreuder, *supra* note 14, at 54.

16. Schreuder, *supra* note 14, at 54; Irvin, *supra* note 13, at 81–82.

17. Michael Q. McShane & Andy Smarick, *To Improve Rural Schools, Focus on Their Strengths*, EDUC. NEXT (Apr. 8, 2019), <https://www.educationnext.org/improve-rural-schools-focus-on-strengths-facilitate-school-choice-charter-conversions-solutions> [<https://perma.cc/A9GR-Y8RA>] (proposing ways to increase high-quality teacher retention and efficiently increase course offerings).

18. DANIEL SHOWALTER, ROBERT KLEIN & SARA L. HARTMAN, *WHY RURAL MATTERS 2015-2016*, at 6 (2017), http://www.ruraledu.org/user_uploads/file/WRM-2015-16.pdf [<https://perma.cc/GW2M-Q8FG>]; DOUGLAS J. GAGNON & MARYBETH J. MATTINGLY, *LIMITED ACCESS TO AP COURSES FOR STUDENTS IN SMALLER AND MORE ISOLATED RURAL SCHOOL DISTRICTS*, at 1 (2015), <https://scholars.unh.edu/cgi/viewcontent.cgi?article=1234&context=carsey> [<https://perma.cc/9YNJ-TBDC>].

19. Irvin, *supra* note 13, at 73–74.

20. ANTHONY P. CARNEVALE, JEFF STROHL, BAN CHEAH & NEIL RIDLEY, *GOOD JOBS THAT PAY WITHOUT A BA* (2017), <https://goodjobsdata.org/wp-content/uploads/Good-Jobs-wo-BA.pdf> [<https://perma.cc/M9GP-K86Q>] (discussing the statistical increase in jobs requiring a college education); Irvin, *supra* note 13, at 74; Aaron Gettinger, *A Big Reason Rural Students Never Go to College: Colleges Don't Recruit Them*, HECHINGER REP. (Mar. 6, 2019), <https://hechingerreport.org/a-big-reason-rural-students-never-go-to-college-colleges-dont-recruit-them> [<https://perma.cc/BQC5-NPQJ>].

21. Gettinger, *supra* note 20.

22. Irvin, *supra* note 13, at 73.

quality education, their chances of escaping the cycle of poverty are diminished.²³

While rural students often experience disparate educational outcomes compared to their urban peers, they also face a more fundamental problem. The underlying goal of education is to prepare and equip students to contribute as members of modern society,²⁴ but in this, rural schools are falling even further behind. A bedrock of our modern society and economy is broadband Internet,²⁵ and rural areas disproportionately lack adequate broadband access.²⁶ As a result, rural schools and students cannot utilize the same learning and training opportunities as their urban counterparts.²⁷ COVID-19 and the shift to remote work and online learning further exposed and exacerbated the lack of sufficient broadband access in rural communities.²⁸

Broadband Internet is defined as an “Internet connections that can transfer data and information . . . at high speeds.”²⁹ Minnesota’s Legislature defines adequate broadband as 25Mbps download by 3Mbps upload speed (“25/3 broadband”).³⁰ Using that standard, roughly 63% of rural Americans have access to adequate broadband Internet at home, while 79% of suburban households and 75% of urban households are able to access home broadband.³¹ Twenty-four

23. Schreuder, *supra* note 14, at 49.

24. *See infra* Part I.A.2.

25. *See infra* Part I.A.2 (discussing the now ubiquitous role of broadband in professional settings); *Getting Broadband Q&A*, FCC, <https://www.fcc.gov/consumers/guides/getting-broadband-qa> [<https://perma.cc/JW42-F77E>] (explaining that broadband facilitates access to telemedicine, reference and cultural resources, and distance learning); CARNEVALE ET AL., *supra* note 20, at 6–11 (demonstrating the transfer of work from blue-collar jobs to higher-level skill jobs exploiting “flexible technology”).

26. *See infra* Part II.B.

27. *See infra* Part II.C.

28. Pam Louwagie, *Spotty Internet Access Is Leaving Many Rural Minnesotans Behind*, STAR TRIB. (Apr. 11, 2020), <https://www.startribune.com/covid-19-pandemic-highlights-broadband-divide-in-rural-minnesota/569541472> [<https://perma.cc/6XND-WVEF>] (discussing how one family in rural Minnesota has “always been annoyed with a patchy cellular internet connection available at home, [but] the global pandemic has exacerbated their plight”).

29. *Minnesota Office of Broadband Development: What We Do*, MINN. DEP’T EMP. & ECON. DEV., <https://mn.gov/deed/programs-services/broadband/what-we-do> (last visited Jan. 8, 2020).

30. OFF. OF BROADBAND DEV., MINN. DEP’T OF EMP. & ECON. DEV., MINNESOTA BROADBAND INFRASTRUCTURE PLAN (2020), https://mn.gov/deed/assets/state-broadband-plan_tcm1045-380006.pdf [<https://perma.cc/BD6R-2GFV>] (mirroring the federal standard).

31. Andrew Perrin, *Digital Gap Between Rural and Nonrural America Persists*, PEW RSCH. CTR. (May 31, 2019), <https://www.pewresearch.org/fact-tank/2019/05/31/>

percent of adults in rural communities report that access to high-speed Internet is a major problem compared with 13% of urban and 9% of suburban adults who report similar concerns.³² In Minnesota, the most recent data shows that 185,000 total households statewide lack access to 25/3 broadband, of which 179,000 are located in rural areas.³³

Minnesota's government has recognized the problem for years and has committed numerous resources towards solving the problem. The state established an Office of Broadband Development, created the Minnesota Ultra High-Speed Broadband Taskforce to study potential solutions, and allocated Border-to-Border Broadband grants to support efforts to expand broadband networks.³⁴ With these initiatives in place, there has been progress, but the efforts have been unable to achieve statewide access.³⁵

Several factors contribute to the persisting problem. Building a rural network requires a significant capital investment and can be complicated by challenging terrain and conditions.³⁶ Private companies choose not to invest their own resources into rural broadband infrastructure because of its high cost and low revenue potential.³⁷ Telecommunications ("telecom") companies make economics-driven choices, and sparsely populated areas fail to offer sufficient return on investment.³⁸ Government grants often fail to fully achieve their

digital-gap-between-rural-and-nonrural-america-persists [https://perma.cc/VW69-JHRW] ("[A]dults who live in rural areas were more likely to say that getting access to high speed internet is a major problem in their local community . . .").

32. Monica Anderson, *About a Quarter of Rural Americans Say Access to High-Speed Internet Is a Major Problem*, PEW RSCH. CTR. (Sept. 10, 2018), <https://www.pewresearch.org/fact-tank/2018/09/10/about-a-quarter-of-rural-americans-say-access-to-high-speed-internet-is-a-major-problem> [https://perma.cc/949G-AM43].

33. 2019 MINN. DEP'T OF EMP. & ECON. DEV. OFF. OF BROADBAND DEV. ANN. REP. 7-8 [hereinafter 2019 ANNUAL REPORT], <https://www.leg.state.mn.us/docs/2019/mandated/190132.pdf> [https://perma.cc/S3R6-JGHV].

34. Tim Gihring, *"If It Were Easy It Would Have Been Done by Now": Why High-Speed Internet Remains Elusive for Many in Rural Minnesota*, MINNPOST (Jan. 3, 2018), <https://www.minnpost.com/economic-vitality-in-greater-minnesota/2018/01/if-it-were-easy-it-would-have-been-done-now-why-high-speed-internet-remains-elusive> [https://perma.cc/P54N-5HT3]; Louwagie, *supra* note 28.

35. 2019 ANNUAL REPORT, *supra* note 33, at 6-7.

36. Marguerite Reardon, *Why Rural Areas Can't Catch a Break on Speedy Broadband*, CNET (Oct. 23, 2018), <https://www.cnet.com/news/why-rural-areas-cant-catch-a-break-on-speedy-broadband> [https://perma.cc/W9CC-75XA].

37. *Id.*

38. *Id.* ("The challenge in rural areas is it's just not economical for private parties to invest there' . . ."); Pete Kotz, *Rural Minnesota Rising: Failed by Capitalism, Residents Seize Control of Their Internet Destiny*, CITY PAGES (Sept. 26, 2018), <http://www>

intended results because much of the money goes to private telecom companies who fail to use the money efficiently or effectively.³⁹ Due to these challenges, government programs and private companies have so far been unable to deliver results to rural Minnesotans.

Lack of broadband access impacts rural education on two levels. Rural school districts are less likely to have access to adequate broadband to service the needs of their entire student bodies,⁴⁰ but even more problematically, rural homes have significantly less access to broadband Internet than urban homes.⁴¹ Without broadband Internet in schools, rural districts are limited in the nature and breadth of technology curriculum they can offer. Without broadband access in their homes, students are limited in the complexity and amount of technology-based homework they can complete.⁴² While students in urban schools use technology to complete and turn in assignments, learn “digital citizenship,” and substitute e-learning days for snow days,⁴³ rural parents are forced to drive to the local McDonald’s parking lot to access broadband Internet for their children to complete their homework.⁴⁴ Minnesota’s rural students and families reported unique and disparate challenges in shifting to remote learning after the state ordered shutdowns and distance learning in early 2020 in response to

.citypages.com/news/rural-minnesota-rising-failed-by-capitalism-residents-seize-control-of-their-internet-destiny/494303631 [https://perma.cc/JA22-NAWK] (“The economic reality is that upgrading broadband infrastructure in the more rural parts of the state is not economically viable . . .”).

39. Mike Hughlett, *Frontier, Under State Investigation for Its Service, Has Received Over \$100 Million in Federal Grants*, STAR TRIB. (Mar. 3, 2019), <http://www.startribune.com/frontier-under-state-investigation-for-its-service-has-received-over-100-million-in-federal-grants/506632742> [https://perma.cc/V64D-V2GA] (highlighting criticisms of Frontier, which received grants from the Connect America Fund designated to support communities where broadband is too costly).

40. CONSORTIUM FOR SCH. NETWORKING, CoSN’s 2018-2019 ANNUAL INFRASTRUCTURE REPORT 4 (2019), https://www.cosn.org/sites/default/files/CoSNs%202018%202019%20Annual%20Infrastructure%20Survey%20Report%20final_0.pdf [https://perma.cc/537W-ZU7V] (“While we are making overall progress on broadband, many rural schools lack affordable broadband access . . .”).

41. Anderson, *supra* note 32.

42. Tony Wagner, *Rural Schools Pay More Than Double for Slow Internet*, MARKETPLACE (Nov. 19, 2015), <https://www.marketplace.org/2015/11/19/rural-schools-pay-more-double-slow-internet> [https://perma.cc/6UGQ-CQGS] (“I’m worried that I’ll get to [college] and they’ll say, ‘OK, here’s your first research project, go do it’ . . . [a]nd I [ll] just sit[] there, lost, like ‘What am I supposed to do?’”).

43. *Technology at School*, EDINA PUB. SCHS., <https://www.edinaschools.org/Page/5493> [https://perma.cc/G9CC-ZFD4].

44. Anton Troianovski, *The Web-Deprived Study at McDonald’s*, WALL ST. J. (Jan. 28, 2013), <https://www.wsj.com/articles/SB10001424127887324731304578189794161056954>.

COVID-19.⁴⁵ The differences in the way rural and urban schools teach and assign broadband-based work creates fundamental discrepancies in the education that students receive.

The rural-urban educational gap caused by the lack of rural broadband access requires a remedy, and the ongoing and life-altering impacts on thousands of rural Minnesota students⁴⁶ demand immediate, tangible action. However, traditional educational adequacy litigation has proven largely incapable of producing the type of large-scale policy change needed to address the problem. This Note will argue that the Minnesota Legislature, the duty-bearer of Minnesotans' constitutional right to adequate education, must act to rectify this educational gap and can do so most effectively by replicating the approach of the Rural Electrification Act of 1936 by incentivizing and providing low-interest loans to broadband cooperatives.

In Part I, this Note will discuss the structure of Minnesota's existing educational system and the complex diffusion of control and decision-making among multiple entities. Part I will then examine the history of approaches to education at both the federal and state level and describe why and how priorities have changed over time. Next, this Part will focus on Minnesota's constitutional guarantee of an adequate education for all students and the state Legislature's role in delivering the guarantee. Finally, Part I will describe adequacy litigation in Minnesota and explore why these lawsuits often fail to achieve meaningful change in Minnesota schools.

In Part II, this Note will describe the increasing use of technology in education and identify broadband as a necessary component of an adequate education. Part II will then compare broadband access and use in Minnesota's metro schools with its use in rural schools and discuss the impact on rural curriculum. Finally, Part II concludes that rural broadband scarcity prevents rural students from receiving an adequate education.

In Part III, this Note will propose a solution premised on the state's Education Clause and its mandate to deliver adequate education to all Minnesota students. Part III focuses on the state Legislature as the governmental branch that both bears the constitutional duty and that possesses the resources and power to address the educational costs of rural broadband scarcity. The solution models

45. Louwagie, *supra* note 28.

46. U.S. DEP'T OF AGRIC., RURAL EDUCATION AT A GLANCE, 2017 EDITION 2-5 (2017), <https://www.ers.usda.gov/webdocs/publications/83078/eib-171.pdf> [<https://perma.cc/B2BA-LMHK>] (finding that the urban-rural gap in college completion continues to grow and that "educational attainment relates to economic outcomes").

legislative investment in and approach to statewide broadband access on the Rural Electrification Act. Part III then compares such an approach with other options, such as private investment and alternative broadband delivery mechanisms.

While this Note focuses on Minnesota, its principles and arguments can be applied more broadly. Minnesota reflects many of the national trends plaguing rural areas, and it provides a useful case study on how to address and combat educational deficiencies underlying and perpetuating disparate impacts. In proposing a solution to combat broadband scarcity and its impact on Minnesota's rural students, this Note also seeks to provide a framework to address national trends and the cycle of poverty and struggle faced by rural students across the country.

I. MINNESOTA'S EDUCATION SYSTEM AND EDUCATIONAL ADEQUACY

Education policy and structure in the United States often involves a complex relationship between federal, state, and local control. Designing education systems combining the three spheres has proven to be challenging, complex, and politically charged.⁴⁷ While education is recognized as a fundamental and essential element of producing a competent and engaged citizenry, federal and state governments continue to grapple with the methods and means of providing education.⁴⁸ This Part addresses the existing education system structure and describes the evolution of education approaches and policies. Part I.A outlines the existing Minnesota education structure and control of decision-making. Part I.B details the history of both federal and state approaches to effective education and how the underlying philosophies have changed over time. Part I.C identifies the Minnesota Constitution as central to the development and implementation of the

47. See, e.g., P.L. Thomas, *Politics and Education Don't Mix*, ATLANTIC (Apr. 26, 2012), <https://www.theatlantic.com/national/archive/2012/04/politics-and-education-dont-mix/256303> [<https://perma.cc/2K4B-EDE4>] (criticizing a bureaucratic approach to the education system).

48. Brendan Pelsue, *When It Comes to Education, the Federal Government Is in Charge of . . . Um, What?*, HARV. ED. MAG., Fall 2017, <https://www.gse.harvard.edu/news/ed/17/08/when-it-comes-education-federal-government-charge-um-what> [<https://perma.cc/MDZ7-JDFM>]; Kathryn Baron, *Finding a Balance for the Federal Role in Education Policy*, CARNEGIE COMMONS BLOG (Dec. 16, 2016), <https://www.carnegiefoundation.org/blog/finding-a-balance-for-the-federal-role-in-education-policy> [<https://perma.cc/ZD83-JFCA>]; Dustin Hornbeck, *Federal Role in Education Has a Long History*, CONVERSATION (Apr. 26, 2017), <http://theconversation.com/federal-role-in-education-has-a-long-history-74807> [<https://perma.cc/STU3-XNKN>].

state's educational system by requiring an adequate education for all students. Finally, Part I.D traces the approaches and results of educational adequacy litigation in Minnesota.

A. EDUCATION POLICY IN MINNESOTA INVOLVES A MIX OF FEDERAL, STATE, AND LOCAL ACTORS

Education and educational adequacy have become predominantly state issues for a variety of reasons. First, federal mechanisms do not contain or guarantee a positive right to education, limiting the ability to pursue claims.⁴⁹ Second, every state constitution mentions education in some fashion, and many provide positive and enforceable rights.⁵⁰ Finally, state governments largely retain operational and financial responsibility for school systems.⁵¹ This mix of factors provides advocates tools and opportunity with which to pursue education system improvements in state systems that are unavailable under federal mechanisms.

1. Minnesota's Education System Derives from the State Constitution

In Minnesota, the state constitution articulates the purpose of universal education, guarantees an education for every citizen, and delegates responsibility for the right to the Legislature. Article XIII § 1 states:

The stability of a republican form of government depending mainly upon the intelligence of the people, it is the duty of the legislature to establish a general and uniform system of public schools. The legislature shall make such provision by taxation or otherwise as will secure a thorough and efficient system of public schools throughout the state.⁵²

Minnesota's education system structure and mechanisms largely derive directly from Article XIII § 1 ("Education Clause").

49. See Derek W. Black, *The Fundamental Right to Education*, 94 NOTRE DAME L. REV. 1059, 1063 (2019) (stating that the right to education "falls squarely within the Court's existing precedent").

50. Roni R. Reed, *Education and State Constitutions: Alternatives for Suspended and Expelled Students*, 81 CORNELL L. REV. 582, 582 (1996) ("Every state constitution has an education clause."); *Pauley v. Kelly*, 255 S.E.2d 859, 865 & n.10 (W. Va. 1979) (holding that education is an enforceable right).

51. FISCAL ANALYSIS DEP'T, MINN. HOUSE OF REPRESENTATIVES, FINANCING EDUCATION IN MINNESOTA 2018-2019, at 2 (2019), <https://www.leg.state.mn.us/docs/2019/Other/190039.pdf> [<https://perma.cc/23TL-55Y6>] (providing the general structure for education funding).

52. MINN. CONST. art. XIII, § 1.

2. Minnesota's Legislature Oversees Implementation of Education

The Education Clause empowers Minnesota's Legislature to design and deliver education to Minnesota's students. In order to fulfill this duty, the Legislature developed frameworks and standards for Minnesota schools and created agencies to oversee the implementation of these overarching principles.⁵³ These tools establish the criteria that Minnesota schools must meet and maintain in order to comply with the Legislature's vision and goal for Minnesota's schools under the Education Clause.⁵⁴ Agencies, including the Minnesota Department of Education, assist and evaluate school districts on the achievement of these standards.⁵⁵

a. Statutes and Regulations Define Adequate Education

As the primary duty-bearer under the Education Clause, the Legislature enacted several statutes and regulations that define the purpose and goals of the state's education system and set minimum acceptable levels of education. In one statute, the Legislature implemented statewide standards requiring minimum "student learning in the content areas of language arts, mathematics, science, social studies, physical education, and the arts . . ."⁵⁶ Another statute describes the importance of and the content of uniform graduation requirements for all students.⁵⁷ In its standards, the Legislature makes clear its purpose is to "establish[] rigorous academic standards for Minnesota's public school students."⁵⁸ Notably, the Legislature also states its goal to "have all students attain career and college readiness before graduating from high school . . ."⁵⁹ Through its standards and purpose statements, the Legislature makes clear that adequate education includes both proficiency in key content areas and sufficient preparation for college and career success.

53. MINN. STATE DEP'T OF EDUC., A HISTORY OF THE STATE DEPARTMENT OF EDUCATION IN MINNESOTA, <https://mn.gov/mnddc/past/pdf/60s/67/67-AHO-MDE.pdf> (detailing the history of the Minnesota Department of Education).

54. See MINN. R. 3501 (2019) (detailing statewide standards for core content areas).

55. MINN. STATE DEP'T OF EDUC., *supra* note 53, at 10.

56. MINN. STAT. § 120B.018(6) (2019); see also MINN. R. 3501.

57. MINN. STAT. § 120B.02(2) (2019).

58. MINN. STAT. § 120B.02(1).

59. MINN. STAT. § 120B.11(1)(c) (2019).

b. *The Department of Education Measures Educational Achievement*

Minnesota's Legislature delegated some responsibility for the state educational system to regulatory agencies.⁶⁰ Agencies, such as the Department of Education ("DOE"), regularly assess the performance of school districts across the state.⁶¹ The evaluation metrics used evolve and change over time to reflect shifts in the skills and knowledge necessary to succeed in higher education and the workforce.⁶² In large part, the standards have shifted away from time spent on instruction and toward assessing whether students have gained competency and proficiency in key content areas.⁶³

3. Local School Boards Oversee Operations and Daily Decision-Making

The relationship between state actors and local school districts, while complex, plays a central role in Minnesota's educational system. While the state Legislature and regulatory agencies retain authority to set educational standards, local school boards generally control operational matters such as assignment of students, hiring and assignment of staff, compensation for teachers, school policies and curriculum, and punishment mechanisms.⁶⁴ Additionally, most states, including Minnesota, allow school districts to generate large portions of their own funding through local mechanisms.⁶⁵ However, federal and state governments and agencies continue to exercise some degree of constraint over local school boards in their operational and funding activities.⁶⁶

One important application of the balance of local, state, and federal control in Minnesota school districts is the responsibility and control over curriculum and academic priorities.⁶⁷ Individual school districts can exercise large amounts of discretion in establishing curriculum and standards for its academic programs.⁶⁸ However,

60. MINN. STATE DEP'T OF EDUC., *supra* note 53, at 11.

61. *Id.* at 13.

62. *Id.*

63. *See infra* Part I.B.

64. Donald Uerling & Robert O'Reilly, *Local Control of Education*, in NEBRASKA POLICY CHOICES: EDUCATION 1, 1 (Miles T. Bryant, Patricia O'Connell & Christine M. Reed eds., 1989) ("Local control of education is a concept that has become embedded in American culture.").

65. FISCAL ANALYSIS DEP'T, *supra* note 51 (showing that 9.9% of revenue comes from referendums and 4.4% is "local optional").

66. *Id.*

67. Uerling & O'Reilly, *supra* note 64, at 1-12.

68. *Id.* at 5-6.

school districts are routinely evaluated on a variety of statewide metrics such as learning-based outcomes and graduation requirements.⁶⁹ This interaction enables each district to customize and individualize its curriculum to its own needs, but it also allows the Legislature to ensure that all students receive a minimum level of education comparable to other students across the state.

In addition to curriculum and academic programs, school financing involves a mix of state and federal government funds, supplemented by local sources.⁷⁰ The state government provides a baseline amount of funding “intended to provide the basic financial support.”⁷¹ In the most recent budget cycle, education spending accounted for \$22 billion of the state’s \$45.5 billion budget.⁷² In allocating funds to school districts, the state considers a mix of factors including the number of special education needs or non-native English speaking students, poverty rates, and property values.⁷³ Beyond the funding provided by the state, each school district can seek voter approval for additional expenditures, typically through property tax increases or referendums.⁷⁴ These referendums often result in large funding disparities between wealthy and poor districts due to significant differences in property values and referendum revenue between districts.⁷⁵

In this arrangement, the state government seeks to provide the baseline level of funding needed for operating of the schools and

69. Minn. Legis. Reference Libr., *Minnesota Issues Resources Guides: Academic Standards*, MINN. LEGISLATURE, <https://www.leg.state.mn.us/lrl/guides/guides?issue=academic> [<https://perma.cc/4DWC-LPBU>] (last reviewed Aug. 2020).

70. Erin Golden, *Tim Walz Considers Shift Away from School Referendums to Fund Minnesota Schools*, STAR TRIB. (Jan. 28, 2019), <http://www.startribune.com/walz-considers-shift-away-from-school-referendums-to-fund-minnesota-schools/504944132> [<https://perma.cc/J25Q-PZC2>].

71. FISCAL ANALYSIS DEP’T, *supra* note 51, at 1.

72. Christopher Magan, *GOP and DFL Start Negotiations Nearly a Billion Dollars Apart. Here Are the Big Differences*, PIONEER PRESS (Apr. 15, 2019), <https://www.twincities.com/2019/04/15/education-is-half-the-state-budget-gop-and-dfl-start-negotiations-nearly-a-billion-dollars-apart> [<https://perma.cc/36KQ-XYSR>].

73. Megan Burks, *Minnesota’s School Funding Formula Provides Some Students of Color Less Than Their White Peers*, MPRNEWS (Mar. 5, 2019), <https://www.mprnews.org/story/2019/03/05/mn-school-funding-formula-shows-disparity> [<https://perma.cc/DL4M-57D9>] (identifying several factors used to determine the financial “needs and capacity of school districts”).

74. FISCAL ANALYSIS DEP’T, *supra* note 51, at 32.

75. *Minnesota Map Shows Wider Funding Gap Between Schools*, MINN. RURAL EDUC. ASS’N (June 15, 2018), <http://www.mreavoice.org/minnesota-map-shows-wider-funding-gap-between-schools> [<https://perma.cc/3CW2-N6X9>] (finding that “71 percent of rural districts fall below the average in operating referendum wealth per pupil”).

meeting the basic needs of students.⁷⁶ Consideration of these factors within each district allows the state to adjust funding in order to provide the amount needed to support education for students in that district even if the school faces higher costs or a diminished ability to raise its own funds.⁷⁷ Local school districts are then free to raise money above and beyond that baseline level in order to fund local priorities.⁷⁸

These examples illustrate key aspects of the relationship between the state government and local school districts. The state government sets priorities and broad policy to guide the educational system.⁷⁹ Local school districts, under that broad policy umbrella, exercise large amounts of control over their operation, funding, and curriculum.⁸⁰ However, the state government acts as a backstop to confirm that statewide standards and requirements are met and ensure that each student receives an adequate education.⁸¹ This safety-net function becomes essential in situations where school districts are unable or unwilling to provide essential aspects of education such as broadband.

B. FEDERAL AND STATE APPROACHES TO EDUCATION HAVE EVOLVED OVER TIME

In early approaches to setting educational standards in Minnesota, the Legislature and agencies focused on rudimentary measures of the system's efficacy. Under its earliest policies, the DOE required that schools supply a certain amount of total "seat time" for all students,⁸² and state agencies required schools to break down seat time amongst certain subjects.⁸³ However, the state did not mandate any degree of difficulty of the subjects or the level of educational proficiency students had to attain to receive a high school diploma.⁸⁴ Instead, the system "stresse[d] the amount of time students spend in the classroom rather than their mastery of subjects."⁸⁵ Under this system,

76. Burks, *supra* note 73.

77. *Id.*

78. FISCAL ANALYSIS DEP'T, *supra* note 51.

79. Uerling & O'Reilly, *supra* note 64, at 5.

80. *Id.* at 1-4.

81. LISA LARSON, MINN. HOUSE RSCH. DEP'T, MINNESOTA'S STATEWIDE ASSESSMENTS (2016), <https://www.house.leg.state.mn.us/hrd/pubs/ss/ssgradasst.pdf> [<https://perma.cc/6YDZ-BJYX>] (outlining Minnesota's statewide graduation requirements).

82. Minn. Legis. Reference Libr., *supra* note 69.

83. *Id.*

84. *Id.*

85. ELENA SILVA, TAYLOR WHITE & THOMAS TOCH, CARNEGIE FOUND. FOR THE

schools provided an adequate education as long as they provided the required seat time.⁸⁶

In 1983, however, the then United States Secretary of Education, Terrell Bell, produced a report criticizing the current public education system as a “rising tide of mediocrity” and for failing to prepare students for adult work and responsibilities.⁸⁷ Bell argued that watered-down content and low expectations for students were creating a “weak and deteriorating educational system.”⁸⁸ Responding to the report, the nation’s education system embarked on an ambitious period of self-reflection and measurement, and many states re-evaluated the assessments used in their schools.⁸⁹

Within the state, Minnesota’s education system responded to the national pressures and began re-assessing its own education system.⁹⁰ In addition to Bell’s report, local pressure began to build as business and community leaders expressed concerns about students’ lack of basic math and literacy skills.⁹¹ These forces called for a shift in focus to “what students know and can do’ as the criteria for graduation.”⁹² In the early 1990s, Minnesota agencies began to evaluate school districts using “learning-based standards.”⁹³ Under its first learning-based standards Minnesota students had to pass a “Basic Skills Test” in reading, writing, and math designed to evaluate

ADVANCEMENT OF TEACHING, THE CARNEGIE UNIT: A CENTURY-OLD STANDARD IN A CHANGING EDUCATION LANDSCAPE 5 (2015), <https://www.luminafoundation.org/files/resources/carnegie-unit-report.pdf> [<https://perma.cc/62QY-6RFP>].

86. *Skeen v. State*, 505 N.W.2d 299, 318 (Minn. 1993) (holding that Minnesota fulfilled “its constitutionally-imposed duty to provide a uniform system of education for Minnesota’s students attending public schools”).

87. Patricia G. Avery, Richard Beach & Jodiann Coler, *The Impact of Minnesota’s “Profile of Learning” on Teaching and Learning in English and Social Studies Classrooms*, 11 EDUC. POL’Y ANALYSIS ARCHIVES 1, 3–4 (2003), <https://epaa.asu.edu/ojs/article/view/235> [<https://perma.cc/92BL-JZRY>]; TERRELL H. BELL, A NATION AT RISK: THE IMPERATIVE FOR EDUCATION REFORM (1983), https://www.edreform.com/wp-content/uploads/2013/02/A_Nation_At_Risk_1983.pdf [<https://perma.cc/28EN-T4PV>] (stating the findings of the National Commission on Excellence in Education, established by Bell to create the report on public education).

88. Avery et al., *supra* note 87, at 3.

89. *Id.*

90. MINN. STATE DEP’T OF EDUC., *supra* note 53.

91. Avery et al., *supra* note 87.

92. *Id.*

93. *What Does Adequate Education Mean and Who Decides*, JYON KORFF ON EDUC. (July 22, 2017), <http://jvonkorff.blogspot.com/2017/07/what-does-adequate-education-mean-and.html> [<https://perma.cc/ZXP6-PCQW>]; Minn. Legis. Reference Libr., *supra* note 69.

whether students possessed “basic skills”⁹⁴ and a *Profile in Learning* assessment which required students to complete a minimum number of standards contained within “learning areas.”⁹⁵

In 2003, the Profile of Learning system was replaced by an updated learning-based standards regime.⁹⁶ The new system identified five core academic content areas—language arts, math, science, social studies, and arts—and measured student progress against state standards.⁹⁷ In addition, the learning-based standards system required public school students to pass standardized tests in writing, reading, and math prior to graduation.⁹⁸ Since the adoption of the new system, the content and structure of the standards have continued to evolve, and state agencies routinely adjust and modify the requirements.⁹⁹

The Department of Children, Families and Learning’s stated goal of shifting to learning-based standards was for Minnesota schools to produce students who were “[p]urposeful [t]hinkers; [e]ffective [c]ommunicators; [s]elf-[d]irected [l]earners; [p]roductive [g]roup [p]articipants; and [r]esponsible [c]itizens.”¹⁰⁰ These rationales suggest an understanding that the purpose of education is to impart a particular level and type of knowledge and skill to students. Further, the reasons for implementing the changes and the goals of the program demonstrate that policymakers sought to equip Minnesota’s students with skills to succeed in higher-education, work, and life. Finally, the continued evaluation and modification of the standards indicates a recognition that the knowledge and skills students acquire as part of an adequate education may shift over time.

C. MINNESOTA’S CONSTITUTION PROVIDES AN ENFORCEABLE RIGHTS-BASED FRAMEWORK FOR EDUCATION

Educational reform requires navigation through a daunting bureaucratic system, and advocates often focus on political and litigation

94. Avery et al., *supra* note 87, at 4.

95. *Id.* at 4–6 (outlining learning areas such as “Decision Making,” “Scientific Applications,” and “People and Cultures”); Minn. Legis. Reference Libr., *supra* note 69.

96. Minn. Legis. Reference Libr., *supra* note 69.

97. *Id.*

98. *Id.*

99. *Id.* (noting that “[r]evisions to the mathematics standards were completed in 2007, arts standards were revised in 2008, science standards in 2009, and language arts standards in 2010”).

100. Avery et al., *supra* note 87, at 4.

strategies.¹⁰¹ However, a closer examination reveals that a more fundamental approach could be a useful starting point. The Education Clause in Minnesota's state constitution must play an essential part in an effective analysis and critique of the education Minnesota students currently receive. Minnesota's Constitution declares that education is a "fundamental right" for all of the state's students.¹⁰² Further, the state Supreme Court has explicitly stated that the Education Clause is not a grant of power to the Legislature, but rather, it establishes a mandate to deliver education.¹⁰³ The Court emphasized that the Education Clause is not aspirational, but its mandate imposes an affirmative duty on the Legislature to create a "general and uniform" system of education.¹⁰⁴ Thus, while the Legislature enjoys a measure of discretion in designing and implementing the educational system, it must act and must operate within the limits created by the Education Clause.¹⁰⁵

The correct application of the "general and uniform" language in the Education Clause depends on the provision's intended purpose and scope. The legislative history of the text provides limited guidance about the meaning of the "general and uniform" requirement.¹⁰⁶ Neither of the competing Republican and Democratic proposals of draft language for the clause included the phrase.¹⁰⁷ The Republican proposal stated, "The Legislature shall . . . provide for a system of [c]ommon [s]chools which shall be as nearly uniform as [practicable]."¹⁰⁸ The Democratic proposal read, "It shall be the duty of the Legislature . . . to establish a general system of public schools."¹⁰⁹ The first legislative proposal similarly omitted the "general and uniform" language, instead asserting, "It shall be the duty of the Legislature . . . to establish

101. See *supra* Part I.A.

102. *Skeen v. State*, 505 N.W.2d 299, 315 (Minn. 1993). But see *A Constitutional Amendment to Transform Education in Minnesota*, FED. RSRV. BANK MINNEAPOLIS (Jan. 8, 2020), <https://www.minneapolisfed.org/article/2020/a-constitutional-amendment-to-transform-education-in-minnesota> [https://perma.cc/R6UL-M7G6] (proposing an amendment to Minnesota's Education Clause to make its guarantees more explicit).

103. *Associated Sch. of Indep. Dist. No. 63 v. Sch. Dist. No. 83*, 142 N.W. 325, 327 (Minn. 1913).

104. *Skeen*, 505 N.W.2d at 313.

105. Brief for ACLU of Minnesota as Amicus Curiae Supporting Plaintiff-Appellant at 2-7, *Cruz-Guzman v. State*, 916 N.W.2d 1 (Minn. 2018) (No. A16-1265).

106. FRANCIS H. SMITH, THE DEBATES AND PROCEEDINGS OF THE MINNESOTA CONSTITUTIONAL CONVENTION 460-63 (1857).

107. *Id.*

108. *Id.* at 460.

109. *Id.* at 461.

a general system of Public Schools.”¹¹⁰ Then, in final version, the section read, “[t]he stability of a republican form of government depending mainly upon the intelligence of the people, it is the duty of the legislature to establish a general and uniform system of public schools.”¹¹¹ However, the Legislature never explained its rationale for this choice of language.

Because the constitutional history reveals little about the intent of the Legislature or purpose of the Education Clause, the courts soon acted to provide clarification. In one of the earliest cases involving the Education Clause, the Minnesota Supreme Court clearly articulated that Article XIII § 1 “was not a limitation on power but was instead an imposition of a duty.”¹¹² The Court further found that the Education Clause governs the *system* of education the Legislature designs, not specific disparities.¹¹³ Thus, the Legislature is required to adopt a system that has “general and uniform application to the entire state, so that the same grade or class of public schools may be enjoyed by all localities similarly situated.”¹¹⁴

More recent litigation has further articulated and clarified the legislative mandate created by the Education Clause. In the state’s seminal Education Clause case, *Skeen v. State*, the Minnesota Supreme Court interpreted Article XIII § 1 to require an “adequate education” for each student.¹¹⁵ In *Forslund v. State*, the Court further elaborated that “to establish a violation of the Education Clause, a plaintiff must demonstrate that the legislature has failed or is failing to provide an adequate education.”¹¹⁶ In order to evaluate whether an education is adequate, the Court stated that a number of variables would likely influence the determination and that “a plaintiff needs to prove facts to establish that those variables are actually resulting in an inadequate education.”¹¹⁷ Finally, in *Cruz-Guzman v. State*, the Court reiterated that Education Clause claims are justiciable and declared that the judiciary role is “to determine whether the Legislature has violated its constitutional duty under the Education Clause.”¹¹⁸

110. *Id.* at 463.

111. MINN. CONST. art. XIII, § 1.

112. *Skeen v. State*, 505 N.W.2d 299, 309 (Minn. 1993) (citing *Curryer v. Merrill*, 25 Minn. 1, 6–7 (Minn. 1878)).

113. *Id.* at 310 (citing *Curryer*, 25 Minn. at 6).

114. *Id.*

115. *Id.* at 315.

116. *Forslund v. State*, 924 N.W.2d 25, 34 (Minn. Ct. App. 2019).

117. *Id.*

118. *Cruz-Guzman v. State*, 916 N.W.2d 1, 9 (Minn. 2018).

Throughout its jurisprudence on the Education Clause, the Minnesota Supreme Court has made clear that education is a fundamental right, that all students must receive an adequate education meeting a baseline standard, and that the judiciary may step in to determine whether the Legislature has failed in its duty to provide an adequate education.¹¹⁹ However, the Education Clause does not define an adequate education, and Minnesota courts have so far declined to establish a bright-line rule.¹²⁰ Thus, the protections under the Education Clause must be established on a case-by-case basis.

D. EDUCATIONAL ADEQUACY LITIGATION OFTEN FAILS TO RESULT IN MEANINGFUL CHANGE

While courts can and do act to provide oversight of educational systems, the results of judicial review have been mixed, often with limited practical impact. Since the 1954 *Brown v. Board of Education* decision,¹²¹ education advocates have pursued their claims in the courts.¹²² The first wave of education litigation in the *Brown* vein pursued claims under the Equal Protection Clause of the Fourteenth Amendment.¹²³ After the Supreme Court found in *San Antonio Independent School District v. Rodriguez* that there was no fundamental right to education under federal law, a second wave of education litigation focused on equity claims under state constitutions.¹²⁴ State equity claims targeted funding disparities among school districts and achieved varying degrees of success.¹²⁵ However, as equity litigation became more challenging, advocates turned their attention elsewhere.¹²⁶

The third wave shifted advocacy to adequacy litigation, which focused on ensuring that all students receive a “minimum, adequate

119. See *id.* at 11–12; *Skeen*, 505 N.W.2d at 313–14; *Forslund*, 924 N.W.2d at 30–33.

120. See *Forslund*, 924 N.W.2d at 34.

121. *Brown v. Bd. of Educ.*, 347 U.S. 483 (1954).

122. See David Hinojosa & Karolina Walters, *How Adequacy Litigation Fails to Fulfill the Promise of Brown [But How It Can Get Us Closer]*, 2014 MICH. ST. L. REV. 575, 576, 596–97.

123. *Id.* at 596–97.

124. *San Antonio Indep. Sch. Dist. v. Rodriguez*, 411 U.S. 1, 37 (1973); Hinojosa & Walters, *supra* note 122, at 597–98.

125. Hinojosa & Walters, *supra* note 122, at 599–600 (outlining that state equity claims were either denied outright or only resulted in equal funding even if it did not provide enough money to cover essential needs).

126. *Id.* at 601–02 (noting courts’ reluctance to impose monetary orders).

level of education.”¹²⁷ Adequacy litigation runs into its share of roadblocks as well. State governments, and the courts hearing adequacy challenges, must interpret and apply an adequate education in a manageable, yet effective, way.¹²⁸ Courts are forced to conduct a tricky balancing act of not setting such a low bar that the standard is meaningless while avoiding setting such a high bar that it becomes “judicially unmanageable.”¹²⁹

In Minnesota, Education Clause cases fleshed out the meaning and outline of the state’s constitutional protections but have largely failed to force meaningful changes.¹³⁰ *Skeen* elucidated the Education Clause’s framework by requiring an adequate education but upheld the state’s funding system that created significant disparities in per-pupil spending between school districts.¹³¹ *Forslund v. State* challenged the system of teacher tenure, but the Minnesota Court of Appeals found that the claimants failed to establish that the tenure system violated the students’ constitutional right to an adequate education.¹³² *Cruz-Guzman v. State*, a class action lawsuit arguing that race and socioeconomic segregation in Minneapolis and Saint Paul schools violates the Education Clause, is currently winding its way through Minnesota’s courts, with no substantive impact more than five years since its filing.¹³³ In the most successful Education Clause action to date, the NAACP brought a class action suit in 1995 against the City of Minneapolis for race-based segregation in public schools.¹³⁴ In a settlement, the city voluntarily adopted an integration

127. *Id.* at 602.

128. *Id.* at 603–07.

129. *Id.* at 604 n.132 (citing *Neeley v. W. Orange-Cove Consol. Sch. Dist.*, 176 S.W.3d 746, 778 (Tex. 2005)) (comparing “at one extreme, a first-grade reading standard as inadequate and, at the other, an adequacy standard requiring that all students must be taught ‘multiple languages or nuclear biophysics’ and provided unlimited resources”).

130. *See, e.g., Forslund v. State*, 924 N.W.2d 25, 34–35 (Minn. Ct. App. 2019) (holding plaintiffs failed to properly allege the state provided a constitutionally inadequate education).

131. *Skeen v. State*, 505 N.W.2d 299, 320 (Minn. 1993) (finding that the baseline funding from the state provided for adequate education for all students).

132. *Forslund*, 924 N.W.2d at 35.

133. *See Cruz-Guzman v. State*, 916 N.W.2d 1, 5 (Minn. 2018) (finding that separation of powers does not bar the court from hearing Equal Protection or Due Process challenges to the Education Clause).

134. Myron Orfield, *Choice, Equal Protection, and Metropolitan Integration: The Hope of the Minneapolis Desegregation Settlement*, 24 LAW & INEQ. 269, 310–14 (2006) (discussing the complaint filed in the Minnesota desegregation class action suit *Minneapolis Branch of the NAACP v. State*, No. 95-14800 (Minn. Dist. Ct. Sept. 19, 1995)).

program between Minneapolis and neighboring suburban districts.¹³⁵ These limited, mixed results demonstrate the difficulty of enforcing education rights and impacting tangible change in the courts.

Adequacy litigation's role in enforcing the right of students to receive an adequate education is limited both by its low success rate and by its declaratory nature.¹³⁶ In Minnesota, Education Clause cases are rarely successful and face the high bar of proving a failure to provide a baseline level of education. Another challenge is that litigation can only seek a judicial finding that the Legislature, the constitutional duty-bearer, has violated the Education Clause's requirement that it provide an adequate education.¹³⁷ The cases do not seek or attempt to implement specific actions or changes to educational policy.¹³⁸ Finally, courts are especially reluctant to find Education Clause violations in areas of traditional legislative control such as infrastructure.¹³⁹ As a result, adequacy litigation likely will not provide an effective or quick solution to the problem, and the Legislature represents the best forum to address the complex issue of broadband access and education.

II. BROADBAND SCARCITY RESULTS IN INADEQUATE RURAL EDUCATION

Minnesota's Constitution promises each student an adequate education, and Minnesota's Legislature defines an adequate education, at least in part, as proper college and career preparation.¹⁴⁰ Further, the Legislature and Department of Education continually evaluate and adjust the standards used to measure the education students receive, reflecting an understanding that necessary academic and professional skills evolve over time.¹⁴¹ In today's world, students must receive extensive exposure and training in broadband-based technology in order to succeed, and rural areas often fall short.

135. *Id.* at 314; Rachel M. Cohen, *School Desegregation Lawsuit Threatens Charters*, AM. PROSPECT (Jan. 26, 2016), <https://prospect.org/education/school-desegregation-lawsuit-threatens-charters> [https://perma.cc/U6PU-3JT9].

136. *See supra* Part I.D (discussing challenges with education adequacy lawsuits).

137. *See, e.g., Forslund*, 924 N.W.2d at 30 (“[A]lthough specific determinations of education policy are matters for the Legislature, it does not follow that the judiciary cannot adjudicate whether the Legislature has satisfied its constitutional duty under the Education Clause.” (quoting *Cruz-Guzman*, 916 N.W.2d at 9)).

138. *See, e.g., id.*

139. *See, e.g., Cruz-Guzman*, 916 N.W.2d at 8 (discussing cases when the court supported legislative discretion on education policymaking).

140. MINN. CONST. art. XIII, § 1 (2019); MINN. STAT. § 120B.11(1)(c) (2019).

141. Minn. Legis. Reference Libr., *supra* note 69.

This Part outlines how a lack of broadband access negatively impacts rural students and implicates their constitutional right to education. Part II.A discusses how broadband Internet has become essential to an adequate education in the modern age. Part II.B explores the disparity in broadband access between urban and rural areas, particularly for technologies capable of delivering broadband on a large scale. Finally, Part II.C concludes that broadband scarcity in rural schools and homes prevents students from receiving essential exposure to and training in technology and results in an inadequate education.

A. BROADBAND-BASED ACTIVITIES INCREASINGLY REPRESENT CORE CURRICULUM COMPONENTS

The use of broadband Internet in classrooms has become widespread and is endorsed by parents, teachers, and educational institutions. The current educational and classroom uses of broadband Internet illustrate its growing importance and criticality to education and college and career preparation. Schools utilize broadband to access homework resources, enable participation in PSEO and higher education, enhance available curriculum, and teach technology literacy.¹⁴² Schools equip students with laptops and personal devices, assign Internet-based tasks both at school and at home, and experiment with cutting-edge 3D modeling and programming software.¹⁴³ Some of the primary goals of technology integration are teaching digital responsibility, enhancing life and work skills, training computational thinking, creating more collaborative classrooms, connecting parents and schools, encouraging innovative thinking, and gaining familiarity with emerging technologies.¹⁴⁴ Further, the shift to remote learning as COVID-19 hit the United States exposed the reality that reliable

142. Ecker, *supra* note 1.

143. Sarah Lemagie, *1 Student, 1 Laptop Proves Costly*, STAR TRIB. (Nov. 21, 2010), <http://www.startribune.com/1-student-1-laptop-proves-costly/109779099> [<https://perma.cc/98NY-Q35A>]; *Technology Support & Services*, HOPKINS PUB. SCHS., <https://www.hopkinsschools.org/servicesdepartments/technology-media/technology-support-services> [<https://perma.cc/2FQ5-65CR>]; *Libraries & Digital Learning*, BLAKE SCH., <https://www.blakeschool.org/student-life/student-support/libraries-digital-learning> [<https://perma.cc/8MQB-42AY>].

144. GOOGLE FOR EDUC., *FUTURE OF THE CLASSROOM: EMERGING TRENDS IN K-12 EDUCATION* (2019), http://services.google.com/fh/files/misc/future_of_the_classroom_emerging_trends_in_k12_education.pdf [<https://perma.cc/3ZE5-HSDV>].

broadband Internet now not only enhances traditional learning but simply enables basic instruction.¹⁴⁵

1. Technology Tools Enhance Classroom Learning and Provide Expanded Curriculum Options

The U.S. Department of Education promotes technology as a tool capable of “expand[ing] course offerings, experiences, and learning materials; support[ing] learning 24 hours a day, 7 days a week; build[ing] 21st century skills; increas[ing] student engagement and motivation; and accelerat[ing] learning.”¹⁴⁶ Experts view broadband utilization as a method to personalize learning, develop professional skills and competencies, and create adaptable assessment and instruction tools.¹⁴⁷ The Minnesota Department of Education itself promotes and facilitates tech-based initiatives including providing licenses to geospatial technology software and access to 3D modelling software.¹⁴⁸

School districts with access to sufficient broadband provide opportunities to learn ethical and professional uses of technology, access otherwise-unavailable classes such as foreign languages and Advanced Placement, collaborate on group projects using cloud-based storage services, and use digital learning resources instead of traditional textbooks.¹⁴⁹ For example, Hopkins and Stillwater school districts first implemented one-to-one laptop programs in the mid-2000s, and many other metro-area school districts have since introduced similar programs.¹⁵⁰ Hopkins touts extensive “software titles and cloud solutions used for student instruction” and even the ability

145. Rachel Kats, *Lawmakers Advance Broadband Expansion Bill as Demand Intensifies*, MINN. HOUSE REPRESENTATIVES (Apr. 27, 2020), <https://www.house.leg.state.mn.us/SessionDaily/Story/15257> [<https://perma.cc/RR2U-GRGR>] (noting the increased need and demand for Internet connectivity after COVID-19 and that “[w]orking, learning or receiving health care remotely is impossible without it”).

146. *Use of Technology in Teaching and Learning*, U.S. DEP’T EDUC., <https://www.ed.gov/oii-news/use-technology-teaching-and-learning> [<https://perma.cc/F8UP-YXMM>].

147. OFF. OF EDUC. TECH., U.S. DEP’T OF EDUC., REIMAGINING THE ROLE OF TECHNOLOGY IN EDUCATION: 2017 NATIONAL EDUCATION TECHNOLOGY PLAN UPDATE 7 (2017), <http://tech.ed.gov/files/2017/01/NETP17.pdf> [<https://perma.cc/Z8CP-YUUN>] (examining the benefits of greater technology integration into K-12 education).

148. *SketchUp*, MINN. DEP’T EDUC., <https://education.mn.gov/MDE/dse/tech/up> [<https://perma.cc/Q5AC-UHGH>]; *Geographic Information Systems in K-12*, MINN. DEP’T EDUC., <https://education.mn.gov/MDE/dse/tech/gis> [<https://perma.cc/4AVN-N2NC>].

149. *Broadband Access for K12 Schools*, SCHS. EQUITY EDUC., <http://www.schoolsforequity.org/files/119474210.pdf> [<https://perma.cc/NRU7-KYCK>].

150. Lemagie, *supra* note 143.

to support “complete music and video production labs.”¹⁵¹ Wayzata Public Schools provide each of its 10,000 students with an iPad and seeks to offer students “personalized learning experiences” to prepare students to “thrive today and excel tomorrow in an ever-changing global society.”¹⁵² Eden Prairie Schools provide devices for home and school use for students beginning in third grade, train teachers in technology content and pedagogy, and incorporate technology in classrooms “so that students are constantly exposed to 21st Century learning techniques.”¹⁵³

2. Schools Incorporate Broadband-Based Activities to Equip Students for Professional Success

Initiatives to increase broadband-based technology use in classrooms demonstrate the understanding that technology competencies now represent essential skills for modern society and should be integrated into every aspect of a student’s learning.¹⁵⁴ Technological proficiency has become an essential professional skill.¹⁵⁵ Technology-centric jobs have exploded, including a massive expansion of careers that did not exist previously such as computer network specialists, information security analysts, web developers, and logisticians.¹⁵⁶ Many industries are transforming their employment strategies and increasingly relying on talent platforms, online employees, and “gig” workers.¹⁵⁷

More fundamentally, digital technology has infiltrated nearly every job, even those that did not traditionally rely on technology, and

151. *Technology Support & Services*, *supra* note 143.

152. *MyWay for Student Learning*, WAYZATA PUB. SCHS., <https://www.wayzataschools.org/schools/myway> [<https://perma.cc/PBA5-3AJX>].

153. *Curriculum*, EDEN PRAIRIE SCHS., <https://www.edenpr.org/academics/curriculum> [<https://perma.cc/E4EE-3HR6>].

154. *See supra* Part II.A (discussing how broadband-based activities increasingly represent core components of a student’s learning).

155. *See supra* Part II.A.

156. Drew DeSilver, *Reshaping the Workplace: Tech-Related Jobs that Didn’t Exist (Officially, at Least) 15 Years Ago*, PEW RSCH. CTR. (Aug. 6, 2014), <https://www.pewresearch.org/fact-tank/2014/08/06/reshaping-the-workplace-tech-related-jobs-that-didnt-exist-officially-at-least-15-years-ago> [<https://perma.cc/K9KG-JJ4C>].

157. MCKINSEY & CO., *A LABOR MARKET THAT WORKS: CONNECTING TALENT WITH OPPORTUNITY IN THE DIGITAL AGE* 1 n.1 (2015), https://www.mckinsey.com/~media/McKinsey/Featured%20Insights/Employment%20and%20Growth/Connecting%20talent%20with%20opportunity%20in%20the%20digital%20age/MGI_Online_talent_A_labor_market_that_works_Full_report_June_2015.ashx [<https://perma.cc/T8E4-KQYM>] (defining “gig workers” as “contingent [employees who] transact[] on a digital marketplace”).

technology literacy is now a basic skill required and expected of every worker.¹⁵⁸ Computers and personal devices are now standard workplace tools, and e-mail and the Internet are regarded by a majority of Americans as central to performing their job duties.¹⁵⁹ Employers now expect all employees to possess the ability to leverage technology and sophisticated computing powers to inform tasks such as data analysis and presentation, inventory management, and customer segmentation and personalization.¹⁶⁰

Experts and government officials recognize that technology literacy is an essential skill for efficient learning and for professional success. By recommending and facilitating the use of technology-based tools in classrooms, the state has demonstrated that it understands technology's expanding role. Further, the Legislature has consistently emphasized that an adequate education prepares students for professional success, and the economy has shifted in fundamental ways to include and integrate technology into all aspects of professional life. As a result, broadband Internet now represents an essential element of an adequate education.

B. RURAL MINNESOTA STUDENTS LACK SUFFICIENT BROADBAND ACCESS

Despite its importance in modern life, broadband Internet service is often lacking in rural areas.¹⁶¹ The problem, however, is exacerbated when considering the demands of educational broadband use.¹⁶² Schools require greater bandwidth and reliability while also experiencing heightened cost sensitivity.¹⁶³ Meeting these demands in areas of restricted broadband access presents a significant hurdle.¹⁶⁴ Fiber optic technology is capable of meeting the performance metrics schools require while remaining cost-effective enough to incorporate

158. DeSilver, *supra* note 156.

159. Kristen Purcell & Lee Rainie, *Email and the Internet Are the Dominant Technological Tools in American Workplaces*, PEW RSCH. CTR. (Dec. 30, 2014), <https://www.pewresearch.org/internet/2014/12/30/email-and-the-internet-are-the-dominant-technological-tools-in-american-workplaces> [<https://perma.cc/732G-6HZQ>].

160. WORLD ECON. F., *THE FUTURE OF JOBS REPORT* (2018), <http://reports.weforum.org/future-of-jobs-2016/skills-stability/#view/img-9> [<https://perma.cc/DTY8-9YEP>] (discussing the new skills expected in modern workplaces).

161. Perrin, *supra* note 31.

162. See *supra* notes 1-26 and accompanying text.

163. Evan Marwell, *Using Fiber Optics to Bring Schools up to Internet Speed*, WASH. POST (Nov. 13, 2013), https://www.washingtonpost.com/opinions/using-fiber-optics-to-bring-schools-up-to-internet-speed/2013/11/12/210bc1b8-48c7-11e3-b6f8-3782ff6cb769_story.html.

164. See *supra* notes 1-26 and accompanying text.

into daily academic activities.¹⁶⁵ Most experts recommend that schools rely on fiber in order to consistently receive reliable and sufficient access.¹⁶⁶ Unsurprisingly, though, rural areas have less access to fiber optic lines than schools in more densely populated areas.¹⁶⁷

1. Fiber Optic Technology Enables Large-Scale Utilization of Broadband Required by Schools

For educational uses, school districts and students' homes must have access to broadband Internet with sufficient bandwidth, reliability, and sustainability. Fiber optic technology provides the best option for broadband Internet delivery at the required quality and scale that academic uses require.¹⁶⁸ Fiber optic networks utilize bundles of narrow glass to transmit data through pulses of infrared light.¹⁶⁹ In contrast, older copper networks use electrons to transmit data.¹⁷⁰ The updated fiber optic technology translates to better performance, particularly for large-scale educational uses.¹⁷¹

Compared to copper networks, fiber provides more bandwidth, speed, signal distance, and physical durability of the lines.¹⁷² Experts recommend that schools possess at least one gigabit of access speed per 1,000 users for students to fully utilize digital learning tools,¹⁷³ and fiber optic networks are recognized as the best medium to deliver the necessary speeds while remaining affordable and reliable.¹⁷⁴ Fiber technology allows increases in bandwidth over time, and thus, can be scaled to adapt with increased Internet usage and evolving technology.¹⁷⁵ With the reliance on glass to transmit data, fiber lines

165. See *infra* Part II.B.1.

166. Marwell, *supra* note 163.

167. See *infra* Part II.B.2.

168. Marwell, *supra* note 163.

169. Tom Collins, *Bandwidth: Fiber vs. Copper—Which Is the Clear Winner?*, ATLANTech ONLINE (Jan. 23, 2019), <https://www.atlantech.net/blog/bandwidth-fiber-vs-copper-which-is-the-clear-winner> [<https://perma.cc/T67D-8JDQ>].

170. *Id.*

171. *Id.*

172. *Id.*

173. Marwell, *supra* note 163; *Fiber-Optic Internet in the United States*, BROADBAND-NOW, <https://broadbandnow.com/Fiber> [<https://perma.cc/NY4Q-APRP>]; *The Typical School Network*, EDUCATIONSUPERHIGHWAY, <https://www.educationsuperhighway.org/about-school-networks> [<https://perma.cc/3JPA-7XKR>].

174. Marwell, *supra* note 163 (“The median school without fiber pays more than \$100 per month for a megabit of bandwidth while those with fiber pay as little as \$1 per megabit.”).

175. *Fiber-Optic Internet in the United States*, *supra* note 173 (identifying fiber optics as “highly scalable,” capable of “next-generation 1Gb speeds,” and “future proof”).

experience less interference that often occurs when using electrical currents.¹⁷⁶ Fiber also often operates at lower cost in the long-term, even as it delivers superior performance.¹⁷⁷ Schools seeking to provide training and opportunity in modern technology need technology, such as fiber optic networks, that provide the required level performance and reliability.

2. Rural Areas Often Lack Fiber Optic Networks

Fiber optic lines provide the most effective broadband-delivery mechanism for academic purposes,¹⁷⁸ but fiber optic networks often fail to expand into rural areas.¹⁷⁹ Fiber lines are constructed by replacing existing copper-based infrastructures or burying new lines in currently unconnected areas.¹⁸⁰ Due to the substantial investment required, these lines are concentrated in urban areas with high population densities.¹⁸¹ The only school districts in Minnesota without access to a fiber connection are located in rural areas.¹⁸² Rural homes are also less likely to have fiber connections, leaving students unable to complete homework that requires broadband access.¹⁸³

In its 2020 Annual Report, the Minnesota Office of Broadband Development reported no improvements in bringing fiber connections to the rural schools that do not have access.¹⁸⁴ The report also revealed that students' homes in urban Minnesota all had access to 25/3 broadband, considered the current standard, while many rural homes

176. *Id.*

177. OFF. OF EDUC. TECH., U.S. DEP'T OF EDUC., BUILDING TECHNOLOGY INFRASTRUCTURE FOR LEARNING 15 (2017), <https://tech.ed.gov/files/2017/07/2017-infrastructure-Guide.pdf> [<https://perma.cc/F8LD-AS68>]; *Fiber Internet*, LOWER BILL NETWORK, <https://www.lowerbill.net/fiber-internet.html> [<https://perma.cc/8RMS-U482>] ("Even if typical broadband speeds become 1000 times faster in 20 years, a single existing fiber-optic connection can still support it.").

178. *See supra* Part II.A.2.

179. Todd Neeley, *The Rural Broadband Challenge*, PROGRESSIVE FARMER (Mar. 8, 2018), <https://www.dtnpf.com/agriculture/web/ag/news/business-inputs/article/2018/03/08/industry-says-public-funds-needed> [<https://perma.cc/B6L5-F4Q7>].

180. OFF. OF EDUC. TECH., *supra* note 177.

181. *See infra* Part III.C.

182. 2019 ANNUAL REPORT, *supra* note 33, at 13 fig.4.

183. *Internet Access in Minnesota*, BROADBANDNOW, <https://broadbandnow.com/Minnesota> [<https://perma.cc/M9C6-G8TY>].

184. *Compare* 2019 ANNUAL REPORT, *supra* note 33, at 13, *with* 2020 MINN. DEP'T OF EMP. & ECON. DEV. OFF. OF BROADBAND DEV. ANN. REP. 14 [hereinafter 2020 ANNUAL REPORT], https://mn.gov/deed/assets/broadband-annual-report-2020_tcm1045-416256.pdf [<https://perma.cc/963J-WDB9>] (showing no change in broadband access).

continue to lack even that baseline access.¹⁸⁵ Of the fifteen clusters in Minnesota where less than 50% of homes have 25/3 access, all were located in rural Minnesota.¹⁸⁶ Rural areas continue to lack of access to 25/3 or fiber optic broadband, despite the widespread understanding of its importance to education and student development.

C. BROADBAND SCARCITY PREVENTS RURAL SCHOOLS FROM PROVIDING ADEQUATE EDUCATION

With access to high-quality, reliable, and affordable broadband typically delivered through fiber optic networks, urban Minnesota schools race to take advantage of technology.¹⁸⁷ In contrast, rural schools struggle to balance the need to teach and utilize technology with the reality that sometimes the schools, and even more frequently students' homes, lack adequate broadband access.¹⁸⁸ Rural schools attempt to find the middle ground by assigning basic projects requiring online research, viewing educational videos online, and using online platforms to collaborate on essays.¹⁸⁹ However, students often struggle with even these tasks and report exerting extraordinary efforts to complete Internet-based work outside of school.¹⁹⁰

1. Rural Students Cannot Fully Utilize Broadband Internet

One student in Rush City, Minnesota, recalled “strategizing how, when and where she could do assignments, alternating between watching a few minutes of an assigned video and doing her textbook-based homework when the video had to buffer.”¹⁹¹ “[T]eachers in the Gibbon-Fairfax-Winthrop district were forced to circumscribe lessons because the kids couldn’t do research. On winter nights, students idled in cars outside libraries, seeking access to Wi-Fi just to do their homework.”¹⁹²

Another challenge in rural areas with some broadband access is reliability. While many metro-area schools now replace snow days

185. 2020 ANNUAL REPORT, *supra* note 184, at 14 fig.4 (reporting percentage of Minnesota households with at least 25 Mbps download/3 Mbps upload speeds).

186. *Id.*

187. *See supra* Part II.A.

188. *See infra* Part II.C.1.

189. Ecker, *supra* note 1.

190. *See, e.g., id.*

191. *Id.*

192. Kotz, *supra* note 38.

with e-learning days,¹⁹³ one parent in International Falls noted that “[w]hen you talk about e-learning, it becomes an issue. In a snowstorm, it’s likely we don’t have Internet.”¹⁹⁴ Put simply, rural schools are unable to provide and assign broadband-based activities that are commonplace in urban schools, and as a result, rural students receive a different, and inferior, education.

Because rural schools are forced to incorporate technology in fewer and less sophisticated ways, rural students are less technology-literate than their urban peers. One rural Minnesota student who later enrolled as a pre-med student at the University of Minnesota reported that “not having the easy access, in some ways I just don’t know how to deal with anything to do with computers . . . we didn’t use computers for anything until . . . college, so there’s a really big learning curve.”¹⁹⁵ The lack of early access to broadband “leave[s] [rural students] at a disadvantage. [They are] not as fluent in the language of today’s education system, or businesses, so [they] are starting behind.”¹⁹⁶

The discrepancy between the technology-driven curriculum urban students experience and the technology-deficient experience of rural students affects the ability of rural students to compete for academic and professional opportunities. Rural students are unprepared to advance in and perform well in either higher education or a career in today’s technology-dependent economy. Without access to these tools and experiences, rural students miss out on education experiences that are now standard in urban schools and fall behind in developing essential skills and competencies. The differences between urban and rural broadband access and the resulting discrepancies in curriculum results in a fundamentally different education for rural students.

193. Isabella Murray, *Online Learning Has Replaced Snow Days in Some Minnesota School Districts, and More May Follow*, STAR TRIB. (Feb. 8, 2019), <http://www.startribune.com/online-learning-has-replaced-snow-days-in-some-minnesota-school-districts-and-others-may-follow/505540472> [https://perma.cc/9R3M-2UBM].

194. John Reinan, *Why Minnesota’s Broadband Push Is Crucial to Rural Residents*, STAR TRIB. (Mar. 12, 2019), <https://www.govtech.com/network/Why-Minnesotas-Broadband-Push-is-Crucial-to-Rural-Residents.html> [https://perma.cc/B92C-GNVK].

195. Ecker, *supra* note 1.

196. *Id.*

2. COVID-19 Established Broadband Internet as Necessary to Delivering Education

Shifting public education online as COVID-19 spread throughout the country created even greater obstacles for rural students and impacted their ability to receive an adequate education. Minnesota's governor announced the state's stay-at-home order on March 15, 2020, and later extended the closure through the end of the school year.¹⁹⁷ Suddenly, instead of a tool for schools to incorporate alongside traditional methods, broadband Internet became the only method of delivering education. Rural students now found themselves not only missing out on interesting and exciting instruction found in metro schools, but they now struggled to access any learning opportunities.

One northern Minnesota school district implemented a system to deliver worksheets and books to students using their school buses and routes.¹⁹⁸ The bus drivers also picked up any completed work and handed it off to teachers.¹⁹⁹ Students in the district were encouraged to receive and return work online, but "the lack of broadband availability [made] that impossible for some" students.²⁰⁰ In fact, one student reported driving to the school parking lot each day, connecting to the building's Wi-Fi, and participating in classes from her car.²⁰¹ One family in another rural school district drove fifteen miles to the nearest McDonald's once or twice per day "for hours at a time" so that the family's two school-age children could use the Wi-Fi to "best keep up with their classwork."²⁰²

While juggling the challenges brought on by a sudden and unexpected shift to remote instruction, many schools sought creative solutions to broadband scarcity. Such solutions included "beaming Wi-Fi into school parking lots, providing Wi-Fi on school buses ... or

197. *Governor Walz Directs Schools to Make Long-Term Strategic Plans for COVID-19*, OFF. GOVERNOR TIM WALZ & LT. GOVERNOR PEGGY FLANAGAN (Mar. 15, 2020), <https://mn.gov/governor/covid-19/news/#/detail/appId/1/id/423071>; *Governor Walz Outlines Next Steps in COVID-19 Response in Minnesota*, OFF. GOVERNOR TIM WALZ & LT. GOVERNOR PEGGY FLANAGAN (Apr. 23, 2020), <https://mn.gov/governor/covid-19/news/?id=1055-429521>.

198. Kirsten Swanson, *Distance Learning on Minnesota's Iron Range—With No Broadband*, KSTP (Apr. 24, 2020), <https://kstp.com/minnesota-news/distance-learning-on-minnesotas-iron-range-with-no-broadband-coronavirus-stay-at-home-education/5708928> [<https://perma.cc/J5PR-R7TX>].

199. *Id.*

200. *Id.*

201. *Id.*

202. Louwagie, *supra* note 28.

sending home mobile hot spots.”²⁰³ Even with these efforts, however, rural students struggled to get the access they needed.²⁰⁴ As the world faces sustained changes from COVID-19 and potential future pandemics, remote learning may become the new normal.²⁰⁵ In this new normal, rural students cannot access adequate education without sufficient broadband.

III. MINNESOTA'S LEGISLATURE CAN MOST EFFECTIVELY PROVIDE EDUCATIONALLY-REQUIRED BROADBAND TO RURAL MINNESOTA

Minnesota's Constitution promises all students an adequate education and creates a legislative mandate to fulfill that promise.²⁰⁶ Currently, rural students suffer from a lack of access to broadband Internet in an era where technology literacy is an essential skill for success in higher academics and the workplace.²⁰⁷ Minnesota's courtrooms are an ineffective route to rectifying the gap in rural education, and this Part will propose that the Legislature is best positioned to deliver broadband and adequate education because it has both the duty and power to act. Part III.A will identify the Legislature as the constitutional duty-bearer of the Education Clause and will examine how statewide delivery of broadband correlates to other legislative infrastructure projects. Part III.B will use the Rural Electrification Act as a roadmap to building statewide broadband access and argue that the development of broadband cooperatives funded by low-interest state loans is the best solution to the problem. Finally, Part III.C will demonstrate why other solutions cannot succeed.

203. *Id.*

204. *Id.* (“Fourth-grader Michael Zakrajshek has a school-issued hot spot and iPad at his rural Chisholm, Minn., home. But cellular service is so spotty among the tall pines and birch trees surrounding his house that he and his mother . . . often end up taking the devices to the end of their driveway in search of a better signal. Even then, they often are unsuccessful at connecting for video conferencing with Michael's teacher On a recent morning, mother and son shivered in a midmorning chill while trying to connect for about 15 minutes before finally getting through.”).

205. See, e.g., Shawn Hubler & Dana Goldstein, *Los Angeles and San Diego Schools to Go Online-Only in the Fall*, N.Y. TIMES (July 13, 2020), <https://www.nytimes.com/2020/07/13/us/lausd-san-diego-school-reopening.html> [<https://perma.cc/8T63-L8G2>]; Erin Golden, *Hybrid Learning Raises Many Questions for Minnesota Schools and Families*, STAR TRIB. (July 12, 2020, 4:09 PM), <https://www.startribune.com/hybrid-learning-raises-many-questions-for-minnesota-schools-and-families/571730492> [<https://perma.cc/G3GL-DUT8>]; Ashley F. Antonelli, *Weekly Line: Why Deadly Disease Outbreaks Could Become More Common—Even After COVID-19*, ADVISORY BD. (May 15, 2020), <https://www.advisory.com/daily-briefing/2020/05/15/weekly-line> [<https://perma.cc/WU8F-23AC>].

206. MINN. CONST. art. XIII, § 1.

207. OFF. OF EDUC. TECH., *supra* note 147; DeSilver, *supra* note 156.

A. MINNESOTA'S LEGISLATURE IS BEST POSITIONED TO DELIVER BROADBAND

Minnesota's Education Clause reads, in part: "The legislature shall make such provisions by taxation or otherwise as will secure a thorough and efficient system of public schools throughout the state."²⁰⁸ The text of the Education Clause makes clear that the Legislature bears the burden of providing adequate education to Minnesota students,²⁰⁹ and the Judiciary is only empowered to determine whether the constitutional protections have been violated.²¹⁰ The Education Clause imposes an explicit duty on the Legislature.²¹¹ Courts analyzing educational inadequacy claims do so by evaluating whether the Legislature has failed to meet its obligation but generally do not proscribe or implement policy changes.²¹²

Delivering broadband Internet to rural Minnesota requires planning and investment, and the Legislature is the only branch suited to the task. First, the Legislature possesses the necessary expertise and administrative resources to take on statewide broadband. Already, the Legislature has established several agencies with oversight of and responsibility for infrastructure projects. The Department of Transportation manages travel-related projects such as aviation, roadways, bridges, and rail.²¹³ The Public Utilities Commission regulates electricity, natural gas, and telephone service in Minnesota.²¹⁴ The Department of Employment and Economic Development ("DEED") manages funding and oversees state drinking water distribution, wastewater treatment, and public facilities in addition to the broadband development program.²¹⁵ These departments, established by the Legislature and designed to facilitate and manage large-scale infrastructure initiatives, could provide the institutional resources and expertise needed to deliver broadband statewide.

Second, delivering broadband with the scale and reliability required for educational purposes will likely require significant

208. MINN. CONST. art. XIII, § 1.

209. See generally *supra* Part I.C (explaining how the Minnesota Constitution provides an enforceable rights-based framework for education).

210. Cruz-Guzman v. State, 916 N.W.2d 1, 9 (Minn. 2018).

211. Skeen v. State, 505 N.W.2d 299, 313 (Minn. 1993).

212. *Id.*; Forslund v. State, 924 N.W.2d 25, 33 (Minn. Ct. App. 2019).

213. *A Brief History of MNDot*, MINN. DEP'T TRANSP., <https://www.dot.state.mn.us/information/history.html> [<https://perma.cc/XDZ6-HCFD>].

214. *About Us*, MINN. PUB. UTILS. COMM'N, <https://mn.gov/puc/about-us> [<https://perma.cc/MN3E-8USE>].

215. *Infrastructure Funding*, MINN. EMP. & ECON. DEV., <https://www.mn.gov/deed/government/financial-assistance/infrastructure>; MINN. STAT. § 116J (2019); MINN. STAT. § 116J.39 (2019).

financial investment. In order to deliver the necessary broadband access, the state would need to invest in statewide fiber optic networks.²¹⁶ Replacing existing copper lines with fiber cable or building new fiber optic networks requires a large capital expenditure. The U.S. Department of Transportation has estimated that the average cost of fiber installation as \$27,000 per mile.²¹⁷ In some rural areas of Minnesota, estimates put the cost of fiber at \$8,000 to \$10,000 per household.²¹⁸ As a result, the capital investment needed to build a fiber optic network represents the greatest obstacle to governments and private entities attempting to expand broadband access.²¹⁹

The Legislature, however, is uniquely positioned to generate and allocate the required funding. It possesses the exclusive power to lay and collect taxes for the purpose of both infrastructure and education.²²⁰ Further, the Legislature can leverage its current agency structure and funding mechanisms to minimize administrative costs.²²¹ Finally, the Legislature's responsibility for infrastructure projects allows it to efficiently fold fiber optic network construction into other projects.²²² For example, a study by the United States Government Accountability Office determined that installing fiber cables in concert with road construction projects could reduce fiber installation costs by approximately 16% in rural areas.²²³

Minnesota's Legislature is best positioned to deliver broadband Internet to rural Minnesota. The Legislature has the constitutional mandate, the financial and administrative resources, and the experience required to take on the large-scale infrastructure project required to deliver the necessary broadband Internet connectivity to rural schools and homes. Courts are ill-suited to the task because their role is only to determine the existence of a constitutional violation, not

216. See generally *supra* Part II.B (discussing the necessity of fiber optic networks).

217. Sally Aman, *Dig Once: A Solution for Rural Broadband*, USTELECOM (Apr. 12, 2017), <https://www.ustelecom.org/dig-once-a-solution-for-rural-broadband> [<https://perma.cc/N3X9-WGGP>].

218. Gihring, *supra* note 34.

219. *Id.*; see also Nancy Madsen, *Fiber-Optic Project to Give Rural Minnesotans High-Speed Connection*, GOV'T TECH. (July 9, 2015), <https://www.govtech.com/dc/articles/Fiber-Optic-Project-to-Give-Rural-Minnesotans-High-Speed-Connection.html> [<https://perma.cc/T9SS-Z5AW>] (detailing that a fiber optic project in Sibley and Renville counties will cost \$45 million).

220. MINN. CONST. art. X; MINN. CONST. art. XIII, § 1.

221. See, e.g., *Infrastructure Funding*, *supra* note 215.

222. Aman, *supra* note 217.

223. *Id.*

to set policy. As a result, the problem of rural broadband Internet scarcity and its impact on education can only be solved legislatively.

B. THE RURAL ELECTRIFICATION ACT OF 1936 PROVIDES A ROADMAP TO AN EFFECTIVE STATEWIDE INFRASTRUCTURE PROJECT

The Rural Electrification Act (REA) provides an illustrative roadmap to Minnesota's Legislature for the statewide expansion of broadband Internet access. While there are differences in the political, economic, and social climates surrounding the situation, Minnesota's Legislature should emulate REA's model in its efforts to deliver statewide broadband Internet access. The REA sought a solution to a widespread rural infrastructure problem that could not have been cured through private investment.²²⁴ To solve the issue, the government leveraged local citizens and a sustainable funding source to deliver necessary technology.²²⁵ The successful expansion of electricity to the nation's rural areas provides useful instruction and guidance for the similar deliverance of broadband Internet access generations later.

1. The Rural Electrification Act and Expanding Electricity into Rural America

Passed as part of Franklin Roosevelt's New Deal in 1936, the REA sought to bring electricity to rural farms.²²⁶ Prior to the REA, only 10% of rural Americans and only one in ten farms had electricity.²²⁷ The United States Congress, concerned that people in rural America "were not getting a 'fair chance,'" designed the REA to combat disparities between rural and urban citizens.²²⁸ Senator George Norris of Nebraska, a primary drafter of the REA, noted that rural Americans who lacked electricity, were "conscious of the great gap between their lives and the lives of those whom the accident of birth or choice placed in towns

224. *Rural Electrification Act (1936)*, LIVING NEW DEAL, <https://livingnewdeal.org/glossary/rural-electrification-act-1936> [<https://perma.cc/2U3R-LNZA>].

225. *Id.*

226. Brandon McBride, *Celebrating the 80th Anniversary of the Rural Electrification Administration*, U.S. DEP'T AGRIC. (Feb. 21, 2017), <https://www.usda.gov/media/blog/2016/05/20/celebrating-80th-anniversary-rural-electrification-administration> [<https://perma.cc/2UYU-45GD>].

227. *Rural Electrification Administration*, ROOSEVELT INST. (Feb. 25, 2011), <https://web.archive.org/web/20200611222321/https://rooseveltinstitute.org/rural-electrification-administration>.

228. *Rural Electrification Act*, NAT'L PARK SERV., <https://www.nps.gov/home/learn/historyculture/ruralelect.htm> [<https://perma.cc/J9C9-WZWA>].

and cities.”²²⁹ Worsening the issue, private companies largely failed to expand electricity into rural areas due to the high cost of running electrical lines and the fear that rural areas would prove too poor to buy electricity even if lines were built.²³⁰

The REA bypassed electrical companies and partnered with the very communities it sought to help. The program “enabled the federal government to ‘make loans . . . for rural electrification and the furnishing of electric energy to persons in rural areas who are not receiving central station service.’”²³¹ Under the program, the federal government provided loans to individuals, corporations, states, and non-profit cooperatives on favorable terms.²³² The Act also created the Rural Electrification Administration to administer the loans and oversee the progress of expanding electricity to rural areas.²³³

The REA created incentives and opportunities for farmers and individuals in rural areas to band together to create electricity cooperatives.²³⁴ The government then funneled low-interest federal loans to “finance the construction of generation and distribution facilities and power lines”²³⁵ Newly-established electric cooperatives then managed power generation and distribution to local communities.²³⁶

The program has been widely heralded as a massive success. By 1939, 417 electricity cooperatives had been established, and 25% of rural households had access to electricity.²³⁷ By 1945, “an estimated 9 out of 10 farms were electrified.”²³⁸ Today, almost all of America’s rural areas have access to electricity, and electricity co-ops created using the REA loans still service tens of millions of Americans.²³⁹

The REA succeeded due to a variety of factors including its structure as a low-interest, long-term loan program and its reliance on and investment in local cooperatives.²⁴⁰ The use of loans instead of grants for the electrification initiative ensured long-term financial viability,

229. *Id.*

230. *Rural Electrification Administration, supra note 227.*

231. *Rural Electrification Act, supra note 228.*

232. *Id.*

233. *Id.*

234. *Id.*

235. *Rural Electrification Administration, supra note 227.*

236. *Id.*

237. *Id.*

238. *Id.*

239. *WECA History*, WIS. ELEC. COOP. ASS’N, <http://www.weca.coop/we/education/history.htm>.

240. Richard P. Keck, *Reevaluating the Rural Electrification Administration: A New Deal for the Taxpayer*, 16 ENV’T L. 39, 47 (1985).

allowed the government to have more regulatory control and access to the cooperatives, and enabled the government to modify the financial incentives and burden over time by adjusting the interest rate.²⁴¹ The investment in local farmers, who had already demonstrated a desire to band together to get electricity, ensured the program would be efficient and tailored to rural needs.²⁴² Using local communities allowed the government to circumvent companies who refused to invest in rural electricity and utilize individuals with a personal stake in a successful outcome.²⁴³ Finally, the program's encouragement of cooperative formation allowed for a de-centralized, yet regulated, structure that could sustain long-term electrical service for rural areas.²⁴⁴

2. Modern Broadband Scarcity Parallels the 1930s Rural Electrical Shortages

The need to expand electricity in the 1930s closely parallels the need to expand broadband Internet today. Electricity presented new technology that quickly became a basic necessity, and a lack of access negatively impacted rural communities. Expanding access required significant infrastructure investments, and those investments were stunted by a lack of corporate financial incentives, political roadblocks, and logistical hurdles.²⁴⁵ Modern broadband Internet scarcity reflects many of those characteristics. Broadband Internet is now a requirement for participation in business, academics, and society.²⁴⁶ Rural broadband Internet scarcity impedes the ability of residents to succeed in each of those areas.²⁴⁷ Further, expanding broadband statewide will require significant investment in order to build fiber optic networks.²⁴⁸ Finally, economic, political, and logistical factors

241. *Id.* at 46–50.

242. Linda A. Cameron, *Power to the Farmer: Minnesota and the Rural Electrification Administration*, MINNPOST (Feb. 27, 2017), <https://www.minnpost.com/mnopedia/2017/02/power-farmer-minnesota-and-rural-electrification-administration> [<https://perma.cc/5XS9-7JUW>].

243. *Id.*

244. *Id.*

245. David B. Woolner, *FDR's Rural Electrification—A Model for Building a "Smart Grid" for the 21st Century?*, ROOSEVELT INST. (Oct. 23, 2009), <http://web.archive.org/web/20191008152055/https://rooseveltinstitute.org/fdrs-rural-electrification-model-building-smart-grid-21st-century>; *Rural Electrification Act (1936)*, *supra* note 224.

246. *See generally supra* Part II.A.2 (discussing how digital technology has become essential to education and jobs).

247. *See generally supra* Part II.A (illustrating how necessary broadband Internet has become to classrooms).

248. Gihring, *supra* note 34.

have resulted in limited progress in delivering the required investment.²⁴⁹

There are differences, of course. Electricity represented the one key piece missing from a rural economic explosion in the 1930s, but broadband is only one of many deficiencies modern-day rural economies face.²⁵⁰ The cost of building broadband infrastructure exceeds the relative cost of electricity expansion.²⁵¹ Further, constructing electrical lines promised technology that would remain relevant for decades, but broadband Internet delivery mechanisms continue to evolve.²⁵² Despite the differences, the REA represents the most helpful and instructive model to Minnesota legislators intent on providing broadband to students.

3. Applying the REA's Structure to Expanding Broadband Access

An approach modeled after the REA could prove effective in the effort to connect rural Minnesota with broadband sufficient for educational purposes. Low-interest loans provided by the state government could provide the capital needed for the initial investment of constructing a fiber optic network, and a lending structure would create a sustainable and cost-efficient funding mechanism. A cooperative-based approach would invest in local communities and leverage the people directly impacted by the lack of broadband access. Further, encouraging the formation of cooperatives or utilizing existing energy cooperatives to build fiber optic networks and then provide broadband service accomplishes the short-term goal of constructing essential infrastructure and the long-term goal of sustaining affordable access. Finally, a REA approach would allow the Legislature the ability to oversee and regulate the construction of a statewide fiber network.

A lending approach similar to the REA would allow the Legislature to create a sustainable funding mechanism. The primary obstacle to constructing fiber optic networks is the initial investment required to replace old copper lines with fiber optic cables or create new

249. *Id.*

250. See Will Rinehart, *Beware Beto's Siren Song of Rural Broadband*, REALCLEAR-POLICY (Mar. 26, 2019), https://www.realclearpolicy.com/articles/2019/03/26/beware_betos_siren_song_of_rural_broadband_111137.html [<https://perma.cc/FH3T-SNRM>] (arguing that broadband will not solve the problem of talent and financing paucity in rural areas).

251. Will Rinehart, *Rural Broadband Isn't Like Rural Electrification, It Is So Much Harder*, TECH. LIBERATION FRONT (Apr. 8, 2019), <https://techliberation.com/2019/04/08/rural-broadband-isnt-like-rural-electrification-it-is-so-much-harder> [<https://perma.cc/28NU-7VLQ>].

252. Gihring, *supra* note 34.

lines.²⁵³ Government-funded loans would provide the necessary capital while allowing the state to minimize and recoup costs. As networks become operational, revenue generated from customers would sustain the cooperatives and allow for loan repayment.²⁵⁴ Compared to current government programs that use grants to support broadband development,²⁵⁵ a loan structure would prove more cost-effective and sustainable.

Using rural cooperatives to build and maintain a rural broadband network would allow the Minnesota Legislature to take advantage of economic and personal incentives because those most affected by the problem are more likely to personally invest in the solution. Private telecom companies typically fail to invest in rural areas because they lack profit opportunities, even when benefitting from government incentives.²⁵⁶ One group in favor of a cooperative approach argued against relying on telecom companies, stating, “we will benefit tremendously by switching the big telephone companies like AT&T and CenturyLink out and replacing them with cooperatives in many of these rural areas Those companies don’t want to invest in rural areas and we are over-subsidizing them.”²⁵⁷

Local cooperatives, in contrast, would experience different drivers. Local residents experience motivation simply due to the program’s goal—expanding broadband access in their own communities. They are more likely to be effective and efficient stewards of government funding because their incentives go beyond pure profit. In fact, rural parents and communities already go to extreme lengths to facilitate broadband access for their children and students.²⁵⁸ Utilizing

253. *Id.*

254. See Laurence J. Malone, *Rural Electrification Administration*, EH.NET (Mar. 16, 2008), <https://eh.net/encyclopedia/rural-electrification-administration> [<https://perma.cc/5QRL-9FGG>] (“The success of the R.E.A. over the next two decades was even more impressive, especially as a self-sustained financing agency Monies lent through the R.E.A. were also largely repaid, as the default rate was less than one percent.” (citing D.C. BROWN, *ELECTRICITY FOR RURAL AMERICA* 114 (1980))).

255. *E.g.*, *Broadband Grant Program*, MINN. OFF. BROADBAND DEV., <https://mn.gov/deed/programs-services/broadband/grant-program> [<https://perma.cc/4CKP-XD6N>].

256. See generally *infra* Part III.C (discussing why other potential solutions, such as relying on private companies, will not fix the problem of access).

257. Jason Shueh, *Broadband Cooperatives Could Be the Overlooked Solution to Rural America’s Internet Woes*, STATESCOOP (Nov. 29, 2017), <https://statescoop.com/broadband-cooperatives-could-be-the-overlooked-solution-to-rural-americas-internet-woes> [<https://perma.cc/TN73-YG8P>].

258. Ecker, *supra* note 1 (describing persistent efforts by parents to access reliable broadband for educational purposes).

rural cooperatives has the added benefit of job creation, further incentivizing rural individuals to invest in the program long-term.²⁵⁹ Working through rural communities with a personal stake in the outcome would increase the efficacy of the approach, drive efficiency, and sustain long-term investment.

Using a REA model, Minnesota's Legislature can implement oversight requirements as terms of the loans that allow for uniform and standardized infrastructure while outsourcing the work to local cooperatives. Under the REA, the government's lending terms required "close[] over[sight] and regulati[on] of every aspect of [the cooperatives'] operations."²⁶⁰ The REA's approach allowed the government to provide farmers, who were inexperienced in the operation of cooperatives and sophisticated business entities, with "technical and legal advice" in addition to funding.²⁶¹ The Minnesota Legislature could achieve the same benefit if it utilized a similar scheme. The Legislature, through DEED, could provide oversight and expertise to cooperatives in both the fiber network construction phase and the broadband-delivery process. This oversight function, implemented as a lending requirement, could allow the state to ensure standardized and efficient construction of fiber optic networks and broadband service.

In fact, a REA model has already proven effective on a smaller scale.²⁶² One study found that cooperatives already deliver fiber to low-population areas of North Dakota, South Dakota, and Montana with small loans from the U.S. Department of Agriculture.²⁶³ The study demonstrated that cooperatives can deliver reliable, modern broadband access to rural areas with comparatively small investment from the federal government.²⁶⁴ In Minnesota, residents in Renville and Sibley counties banded together to form RS Fiber, a cooperative that delivers affordable broadband at speed comparable to and exceeding those in the metro.²⁶⁵ Another co-op, Paul Bunyan Communications out of Bemidji, began installing fiber in 2004 with the help of state funding, and its coverage area now represents one of the best-served

259. Woolner, *supra* note 245.

260. Keck, *supra* note 240.

261. *Id.*

262. Kotz, *supra* note 38 (describing how a small town created an Internet cooperative on their own).

263. HANNAH TROSTLE, KATIE KIENBAUM & CHRISTOPHER MITCHELL, INST. FOR LOC. SELF-RELIANCE, COOPERATIVES FIBERIZE RURAL AMERICA 9 (2019), <https://ilsr.org/wp-content/uploads/2019/06/2019-06-Rural-Coop-Policy-Brief-Update.pdf> [<https://perma.cc/HUD4-H9R6>].

264. *Id.*

265. Kotz, *supra* note 38.

regions in the state.²⁶⁶ These examples illustrate that cooperatives are effective, sustainable, and supported by rural communities. The Legislature simply needs to harness their potential and coordinate a statewide initiative in order to fulfill the Education Clause's mandate to deliver universal broadband access across Minnesota.

4. An REA Model Provides a Route to Navigate a Complex Political Environment

Efforts to expand broadband into rural areas typically face both political and practical hurdles. These challenges include competition for limited financial resources, failure to gain broad consensus and support, special interests, and procedural roadblocks. While other initiatives have largely failed to overcome these barriers, a state-centric REA model can navigate the complicated terrain.

Due to the high capital investment required to build a statewide fiber optic network, funding presents a formidable challenge. However, relevant government actions and rhetoric suggest that funding will not be the limiting factor. The federal government has already committed and continues to commit substantial fiscal resources to rural broadband initiatives.²⁶⁷ In 2019 alone, the White House allocated \$600 million to the first phase of its new American Broadband Initiative designed to reform and de-regulate the barriers preventing broadband infrastructure.²⁶⁸ Meanwhile, the Federal Communications Commission (FCC) committed \$20 billion to rural broadband development through its Rural Digital Opportunity Fund.²⁶⁹ Minnesota's state government has demonstrated a similar willingness to invest

266. Gihring, *supra* note 34; *Beltrami County Ranked #1 in Minnesota for Access to Gigabit Internet Speeds*, PAUL BUNYAN COMM'NS, <https://paulbunyan.net/beltrami-county-ranked-1-in-minnesota-for-access-to-gigabit-internet-speeds> [<https://perma.cc/8JG9-3N9W>] ("From the perspective of county government, we constantly have our eyes on setting ourselves up to be the best community in which to live, raise a family, to recreate, to be educated, and to work. Every single one of those values is positively impacted by the availability of broadband.").

267. *FCC Launches \$20 Billion Rural Digital Opportunity Fund to Expand Rural Broadband Deployment*, FCC (Jan. 30, 2020), <https://docs.fcc.gov/public/attachments/DOC-362190A1.pdf> [<https://perma.cc/XCX2-XT3Q>] (announcing the allocation of \$20 billion to a new grant program entitled the "Rural Digital Opportunity Fund").

268. Kris Holt, *U.S. Government Lays out Strategy to Speed up Rural Broadband Deployment*, ENGADGET (Feb. 13, 2019), <https://www.engadget.com/2019/02/13/american-broadband-initiative-rural-internet-us-government> [<https://perma.cc/9ZUS-X5H8>].

269. *FCC Launches \$20 Billion Rural Digital Opportunity Fund to Expand Rural Broadband Deployment*, *supra* note 267.

funds and prioritize broadband infrastructure: In 2020, it allocated \$20 million in 2019 and \$23 million in 2020 in grant money.²⁷⁰

Building a coalition of political will often impedes legislative proposals, but a REA approach will likely receive broad support from both politicians and the public. In fact, rural broadband currently represents one of the few legislative topics that consistently receives bipartisan support.²⁷¹ On the national level, both congressional representatives and private stakeholders are calling for significant investment in rural broadband infrastructure.²⁷² Minnesota representatives and local business leaders express similar support for aggressive and immediate action to combat the issue.²⁷³ More importantly, utilizing

270. *Broadband Grant Program*, MINN. DEP'T EMP. & ECON. DEV., <https://mn.gov/deed/programs-services/broadband/grant-program>; Sarah Mearhoff, *Walz Announces \$23 Million in Rural Broadband Grants*, DULUTH NEWS TRIB. (Jan. 21, 2020), <https://www.duluthnewstribune.com/news/government-and-politics/4874955-Walz-announces-23-million-in-rural-broadband-grants> [<https://perma.cc/7BJ7-HL35>].

271. *E.g.*, Emily Birnbaum, *Senators Urge USDA to Open up Rural Broadband Funding*, HILL (Feb. 26, 2020), <https://thehill.com/policy/technology/484844-senators-urge-usda-to-open-up-rural-broadband-funding> [<https://perma.cc/G39S-7ELN>]; Wyatt Bechtel, *Bipartisan Bill to Guard and Increase Rural Broadband Reintroduced*, AG-PRO (May 16, 2019), <https://www.agprofessional.com/article/bipartisan-bill-guard-and-increase-rural-broadband-reintroduced> [<https://perma.cc/S8CV-J6PN>]; *Rep. Sewell's RURAL Act Is Signed into Law*, CONGRESSWOMAN TERRI SEWELL (Dec. 21, 2019), <https://sewell.house.gov/media-center/press-releases/rep-sewell-s-rural-act-signed-law> [<https://perma.cc/S3M9-5V3X>]; Amy Klobuchar (@amyklobuchar), TWITTER (Mar. 15, 2020, 3:34 PM), <https://twitter.com/amyklobuchar/status/1239288891682828289> [<https://perma.cc/3DDP-DY87>] ("Coronavirus is causing schools to shut down & shift to online learning. Low-income & rural students face a major challenge in this crisis: lack of broadband access. That's why I've championed bills to bring high-speed internet to every family, regardless of their zip code.").

272. *E.g.*, Christopher Ali, *We Need a National Rural Broadband Plan*, N.Y. TIMES: OP. (Feb. 6, 2019), <https://www.nytimes.com/2019/02/06/opinion/rural-broadband-fcc.html> [<https://perma.cc/P5FD-PF8F>]; *Rural Broadband*, AM. FARM BUREAU, <https://www.fb.org/issues/infrastructure/broadband> [<https://perma.cc/FN8G-HVHN>]; *Delgado Urges Action on Rural Broadband on House Floor*, U.S. CONGRESSMAN ANTONIO DELGADO (Oct. 18, 2019), <https://delgado.house.gov/media/press-releases/delgado-urges-action-rural-broadband-house-floor> [<https://perma.cc/3A84-J4U5>]; Massarah Mikati, *New York Congress Members Push FCC for Broadband Funding*, NNY360 (Jan. 20, 2020), https://www.nny360.com/top_stories/new-york-congress-members-push-fcc-for-broadband-funding/article_3703e07a-2ac9-5033-a2e7-063d8adb1202.html [<https://perma.cc/36KQ-94TF>]; Makena Kelly, *USDA Is Holding Back on Rural Broadband Funding, Senators Say*, VERGE (Feb. 26, 2020), <https://www.theverge.com/2020/2/26/21153910/rural-broadband-usda-reconnect-grants-wyden-fcc-digital-opportunity-fund>; William Morris, *Land O'Lakes' Ford: Rural Areas Need Broadband*, FIN. & COM. (Feb. 5, 2020), <https://finance-commerce.com/2020/02/land-olakes-ford-rural-areas-need-broadband> [<https://perma.cc/RLN2-X9KL>].

273. Morris, *supra* note 272; Walker Orenstein & Gabe Schneider, *In Washington*

funding from the state instead of the federal government eliminates complex dynamics between more and less populous states. For example, the Minnesota state House of Representatives includes 29 “pure rural” districts, 27 “rural-town mix” districts, and an additional 26 “spare suburban” districts.²⁷⁴ These districts, which likely contain constituents directly affected by broadband scarcity, compromise 82 out of 134 total districts and represent a formidable voting bloc.²⁷⁵

A procedural roadblock for many broadband initiatives is the influence of large telecom companies. Minnesota state law requires a referendum approved by a super-majority of voters before a municipal government can “compete” with private telecom companies by building a broadband network.²⁷⁶ Arguably, the referendums ensure transparency in network requirements and cost determinations and generate public support for the network prior to investment.²⁷⁷ In practice, the referendums present significant procedural hurdles, delay projects, and depress public interest.²⁷⁸ As non-government entities, however, cooperatives are not subject to these referendum requirements. By using cooperatives to build fiber-optic networks and provide broadband service, the government need not pursue voter approval but would still achieve the same goal of standardized, statewide broadband.

A final practical barrier results from the relationship between government and private property. Existing electrical lines often run across private property via easements and adding fiber optic lines along the easements is prohibited in many cases. In *Barfield v. Sho-Me Power Electric Cooperative*, the Western District of Missouri ordered a commercial telecommunications company that used utility easements for fiber optic lines to pay \$79,014,140 in damages.²⁷⁹ In response to these concerns, some states are now passing laws protecting entities

and St. Paul, *Progress on Rural Broadband Internet Is Slow, Spotty*, MINNPOST (May 31, 2019), <https://www.minnpost.com/politics-policy/2019/05/in-washington-and-st-paul-progress-on-rural-broadband-internet-is-slow-spotty> [<https://perma.cc/NK5S-ARTZ>].

274. David Montgomery, *Density Will Affect Who Controls State Legislatures, Too*, BLOOMBERG: CITYLAB (Nov. 6, 2018), <https://www.bloomberg.com/news/articles/2018-11-06/democrats-need-suburbs-to-win-state-legislature-elections> [<https://perma.cc/8H6V-NGKE>].

275. *Id.*

276. MINN. STAT. § 237.19 (2019); MINN. STAT. § 429.021 (2019).

277. SHERRY LICHTENBERG, MUNICIPAL BROADBAND: A REVIEW OF RULES, REQUIREMENTS, AND OPTIONS 30 (2014), <https://pubs.naruc.org/pub/FA86C96C-ECA3-B0C1-D5DC-B92FE52541C0> [<https://perma.cc/5KR7-2LXQ>].

278. *Id.*

279. No. 2:11-cv-4321NKL, 2015 WL 3460346, at *5 (W.D. Mo. June 1, 2015).

from liability for using easements to deliver broadband. Michigan, for example, recently introduced two bills that immunize companies that install fiber optic lines on existing easements against “trespass, unjust enrichment or other claims so long as they stay within certain guidelines”²⁸⁰ Indiana passed a law allowing the use of easements for broadband in 2017, and Georgia, Colorado and Maryland recently passed similar laws.²⁸¹ Bills are also currently pending in Alabama and Texas. Because a REA model relies on Minnesota’s Legislature to deliver broadband, it allows the Legislature to pass necessary easement legislation simultaneously.

While a REA model would face barriers, the current political climate suggests that many of the political obstacles have been considerably weakened as concerns about rural broadband scarcity have escalated. Using a REA model would allow the Legislature to harness the broad political support for expanding rural broadband access while avoiding some of the roadblocks that have thus far prevented effective action. The model relies on and empowers the Legislature to take all of the required actions needed to overcome procedural challenges. Because a REA model harnesses political pressure and skirts practical issues, it represents the most effective solution to broadband scarcity.

C. A RURAL ELECTRIFICATION ACT APPROACH SUCCEEDS WHERE OTHER PROPOSED SOLUTIONS FAIL

Broadband expansion into rural areas requires a large-scale infrastructure investment, and the Rural Electrification Act and broadband cooperatives represent a viable solution. Critics, however, question whether public investment in a statewide fiber network is the most appropriate route to achieving full broadband coverage. Nevertheless, proposed solutions such as private investment or government-backed alternative broadband delivery mechanisms fail. Private investment has, and will continue to, fail because extending broadband Internet infrastructure into sparsely populated areas lacks the return on investment that drives corporate decision-making. Alternative broadband delivery mechanisms fail because they cannot deliver

280. Jordan Travis, *Michigan Bills Would Ease Electric Co-op Broadband Projects*, GOV’T TECH. (Jan. 30, 2020), <https://www.govtech.com/network/Michigan-Bills-Would-Ease-Electric-Co-Op-Broadband-Projects.html> [<https://perma.cc/E7UU-HH84>].

281. Katie Kienbaum, *New State Laws Ease the Way for Electric Co-op Broadband*, CMTY. NETWORKS (July 18, 2019), <https://muninetworks.org/content/new-state-laws-ease-way-electric-co-op-broadband> [<https://perma.cc/L37M-TCBW>].

the necessary bandwidth and are less able to evolve with changing technology.

1. A Private Investment Approach Lacks Profit Incentive to Succeed Long-Term

Private companies do not experience the same economic drivers to invest in and build broadband infrastructure in rural areas as they do in urban areas. Large companies typically evaluate potential profit and choose not to invest, and smaller companies struggle to obtain financing based on the unfavorable market structure.²⁸² One telecom executive put it simply, “[w]e take a lot of criticism as an industry for not doing more The reality is we’re doing this with private money, and it has to make sense. You need a return.”²⁸³ Private companies, focused on profit and loss, concentrate their investments in densely-populated and higher-income regional centers.²⁸⁴ In fact, private companies themselves often argue for government involvement in order to extend into rural areas: “Without public investment, the business case for private investment in rural broadband is poor . . . [t]he capital expenditures are high and the revenue stream is low. The median income of many rural areas is often well-below their urban and suburban counterparts, further limiting revenue.”²⁸⁵ Currently, private telecom companies do not experience the economic drivers to invest in and build a rural fiber optic network.

Recent de-regulation of large carriers has provided insight into the potential long-term effects of relying on private companies to invest in rural America. The FCC announced a plan in 2017 to ease restrictions on broadband infrastructure development.²⁸⁶ The existing regulations prohibited carriers from “discontinuing or impairing services unless there is a comparable replacement.”²⁸⁷ By removing the regulations, the FCC aimed to “accelerate the deployment of next-generation networks and services by removing regulatory barriers to

282. *Id.*

283. Kotz, *supra* note 38.

284. *Id.*

285. Neeley, *supra* note 179.

286. FCC, FCC-CIRC1711-04, ACCELERATING WIRELINE BROADBAND DEPLOYMENT BY REMOVING BARRIERS TO INFRASTRUCTURE INVESTMENT (2017), http://transition.fcc.gov/Daily_Releases/Daily_Business/2017/db1026/DOC-347451A1.pdf [https://perma.cc/PF7C-HM6F].

287. Jason Shueh, *FCC Proposal Would Hurt Broadband in Rural and Low-Income Communities, Activists Warn*, STATESCOOP (2017), <https://statescoop.com/fcc-proposal-would-hurt-broadband-in-rural-and-low-income-communities-activists-warn> [https://perma.cc/38BB-HS89].

infrastructure investment.”²⁸⁸ Specifically, it sought to “speed the transition from legacy copper networks and services to next-generation fiber-based networks and services.”²⁸⁹ The new rule was ultimately adopted and became effective January 14, 2019.²⁹⁰

In a joint letter opposing the plan, twenty-two watchdog groups warned that eliminating the regulations would allow carriers to replace legacy copper networks with “low-quality replacement networks that do not meet the needs of a community.”²⁹¹ The letter noted that the proposed rule change “allow[ed] carriers to neglect their legacy networks without the incentive to upgrade to fiber.”²⁹² The watchdog groups cited Verizon’s actions in Fire Island, New York, as a “clear example of the dangers that can occur when carriers do not consider how change in service impact a community.”²⁹³ In Fire Island, Verizon replaced copper networks that had been damaged during Hurricane Sandy with a fixed wireless service that was less expensive than fiber-optic cable.²⁹⁴ The wireless service proved incompatible with many third-party services and was unable to complete 911 calls, prompting outrage.²⁹⁵ The New Jersey state director for AARP questioned why Verizon would use different technologies and approaches in New Jersey than in New York City, arguing that the Fire Island residents were “not second-class citizens.”²⁹⁶

In Minnesota, there have also been examples of private company failure. After a deluge of complaints, the Minnesota Department of Commerce launched an investigation into Frontier Communications and its use of federal funds intended to expand broadband access in rural Minnesota.²⁹⁷ The Department’s report concluded that Frontier

288. *Id.*

289. *Id.*

290. 47 C.F.R. § 1.6001–1.6003 (2019).

291. Letter from Commc’n Workers of Am. et al., to Ajit Pai, Chairman, FCC (Nov. 9, 2017), https://www.publicknowledge.org/wp-content/uploads/2019/09/Joint_Wireline_Broadband_Letter_FINAL.pdf [<https://perma.cc/XYV8-BNNZ>] (commenting on the FCC proposal “Accelerating Wirelines Broadband Deployment by Removing Barriers to Infrastructure Investment”).

292. *Id.*

293. *Id.*

294. Patrick McGeehan, *Verizon Backing off Plans for Wireless Home Phones*, N.Y. TIMES (Sept. 12, 2013), <https://www.nytimes.com/2013/09/13/nyregion/verizon-abandons-plans-for-wireless-home-phones-in-parts-of-new-york.html> [<https://perma.cc/6W8D-XXB4>].

295. Letter from Commc’n Workers of Am. et al., to Ajit Pai, Chairman, FCC, *supra* note 291.

296. McGeehan, *supra* note 294.

297. Hughlett, *supra* note 39; MINN. DEP’T OF COMMERCE, IN THE MATTER OF A

“may have broken at least 35 state laws and failed its customers with shoddy service and inadequate network investment.”²⁹⁸ Further, the report questioned whether Frontier properly used federal funds and met its funding obligations.²⁹⁹ Frontier’s performance in Minnesota and Verizon’s actions in Fire Island demonstrate that private companies will prioritize profits and cut corners in rural areas that are more expensive to service and that produce less revenue.

2. Alternative Broadband Delivery Mechanisms Fail to Meet the Needs of Rural Consumers

Because of the high cost of deploying fiber optic networks, some advocates argue for lower-cost alternatives such as wireless service, white space spectrum, or satellite. These cheaper alternatives, however, are unable to solve the problem of rural broadband scarcity and its negative impact on education because they are less reliable and cannot evolve with technology as well as fiber-optic networks.³⁰⁰ Higher-end wireless options such as 5G are likely too expensive to reach into rural areas, and fixed wireless links often suffer from reliability issues and interference.³⁰¹ For example, Verizon used a fixed wireless link in Fire Island, and a primary complaint was that it often failed and provided generally poor service.³⁰² Wireless also suffers from an economic and political problem—wireless technologies require access to public airwaves. The FCC controls access to these airwaves, and its recent approach has been to prioritize larger licenses that favor major players such as AT&T, Verizon, and T-Mobile.³⁰³ These larger companies hope to use the spectrums to deliver 5G service—to profit-generating urban and suburban customers.³⁰⁴

White space spectrum, which utilizes unlicensed television channels to access broadband services, has been heralded by both the FCC and Microsoft for its untapped potential.³⁰⁵ While there has been

COMMISSION INQUIRY INTO THE SERVICE QUALITY, CUSTOMER SERVICE, AND BILLING PRACTICES OF FRONTIER COMMUNICATIONS (2019) (detailing the results of the state’s investigation into Frontier).

298. Hughlett, *supra* note 39.

299. MINN. DEP’T OF COMMERCE, *supra* note 297, at 127–29.

300. See *supra* Part II.B (discussing the unique broadband needs for education and the unique ability of fiber optic networks to meet those needs).

301. Reardon, *supra* note 36.

302. McGeehan, *supra* note 294.

303. *Id.*

304. *Id.*

305. Reardon, *supra* note 36; *White Space*, FCC, <https://www.fcc.gov/general/white-space> [<https://perma.cc/42WA-UAQW>].

investment in developing the technology, regulatory scheme, and device-capability to utilize this method, it lags in adoption and practicality. There are issues with interference caused by inaccuracies on the available channels list, and no “ecosystem of devices” currently exists to enable easy access to the technology.³⁰⁶ Finally, satellite technology can provide broad coverage, but it is similarly expensive and often suffers from slow speeds.³⁰⁷

Even if the alternative technologies could overcome these issues, they are still inferior to fiber optic networks when considering the needs of educational broadband. Fiber provides faster cloud access, is less prone to outages and downtime, typically provides symmetric upload and download speeds, and can be easily scaled up to higher bandwidth.³⁰⁸ In particular, fiber’s performance with tasks such as file sharing, cloud backups, cloud applications, video streaming, and wireless connection speeds—all key educational uses—exceeds alternative technology.³⁰⁹ Fiber technology outperforms other options and represents the most feasible option for widespread expansion of broadband into rural areas.

CONCLUSION

Broadband Internet is now a ubiquitous and necessary component of daily life. Its omnipresence in business, politics, and personal communications means that everyone must possess requisite understanding and skill in order to contribute and succeed as a member of society. However, individuals who live in rural areas have less broadband Internet access and fewer opportunities to engage with and develop proficiency modern technologies. This broadband Internet scarcity disadvantages people living in rural areas economically, academically, and socially. Minnesota’s Constitution, which recognizes the importance of education to produce an intelligent and engaged citizenry requires the Legislature to provide an adequate education to all students. The lack of broadband access directly impacts the education of rural students and results in an inherently inadequate education in today’s technology-based society. The recent and sudden shift to remote instruction necessitated by COVID-19 exposed

306. Reardon, *supra* note 36.

307. *Id.*

308. *Benefits of Fiber Optic Internet Service & Reasons for Fiber Bandwidth*, FAST-METRICS, <https://www.fastmetrics.com/blog/tech/10-benefits-fiber-optic-internet> [<https://perma.cc/9NEA-55K6>].

309. *Id.*

the fundamental need to expand broadband into rural areas to deliver, inter alia, constitutionally-mandated education.

This Note advocates for a legislative approach to rural Minnesota broadband scarcity based on the Rural Electrification Act. It proposes using low-interest loans to incentivize local communities to develop broadband cooperatives to build infrastructure and deliver broadband service to rural areas. This approach places the burden on the constitutional duty-bearer, creates a sustainable funding mechanism, and leverages local communities most invested in the program's success. This proposal is the best option for solving the rural broadband scarcity problem and succeeds where alternative options fail. Education is essential to the survival and success of rural Minnesotans, and the lack of broadband in rural classrooms handicaps students and impedes their ability to overcome the challenges present in their communities. Minnesota's legislature must fulfill its constitutional duty and act to provide broadband to all of Minnesota's classrooms.